Bureau of Land Management
Wildlife Annual Planning Meeting
Meeting Minutes
Wednesday, February 23, 2011
9:00 a.m.
Rendezvous Conference Room
BLM Pinedale Field Office

9:00 Call to Order – Shane DeForest/BLM Field Manager
Shane welcomed everyone and talked about the purpose of the meeting, the goals, and the ground rules for feedback and suggestions from the public. He stated that one of the goals would be to gather ideas from the public regarding the mitigation project planning and implementation approach that would be presented. He stated he would be presenting first and then go over what was discussed since the October 27th meeting and what actions had been taken thus far. We then heard from the JIO/PAPO project office regarding the selection and mitigation treatment strategy we are currently developing.

9:05 Facilitator/Steve Smutko, Ph.D., University of Wyoming, Environment and Natural Resources, Department of Agriculture and Applied Economics: Steve stated his role as Facilitator was to get information from the BLM staff about what they had done since the last meeting, go over some issues related to this mitigation, and finally, open the discussion for public questions and comments. There were several comments from the last meeting that he categorized into different areas; Mitigation, Implementation, Restoration, Monitoring, and general comments. His goal was to focus around those areas. He stated he would present information on each of the subjects and then make time for public comments. He went over the ground rules, which were listed in the meeting agenda. The purpose of the meeting was to:

- Update on the process undertaken by the BLM since October.
- Describe the mitigation treatment selection process to be used for future project selection.
- Gather public comments to this approach.

9:15 Overview of Activities since the October Meeting-Power Point Presentation/Shane DeForest:
Shane stated the purpose of the presentation would be to give an update on where we've come since the October 27th meeting and to give some idea of our approach and to arrive at some actionable items. He stated a total of 84 comments were received. He summed up those comments and created a handout to try and categorize the comments into groups we could take action on.

The handout can be found on the BLM website by going to http://web.wy.blm.gov go to: Field Office Internet and click on "Pinedale"/ Jonah Interagency Office/'Visit the PAPO'/SEIS Rod Implementation/Wildlife Annual Planning Meeting/Actionable Items Matrix

Comments were divided into five groups:
- General Input (19 Comments)
- Implementation (42 Comments)
- Reclamation Related (6 Comments)
- Monitoring Related (15 Comments)

- Operational Changes Suggested (2 Comments)

Then into five subcategories:

- General Observation
- Guideline for future action (how to do something)
- Suggestions for future actions (what to do)
- Matters already decided elsewhere
- RMP, ROD, Anticline SEIS ROD, etc.

Sequential Mitigation Response As Defined In the 2008 ROD

- On-Site

1. Protection of flank areas from disturbance to assure continued habitat function of flank areas, and to provide areas for enhancement of habitat function.

2. Habitat enhancements of SEIS area (both core/crest and flanks) at an appropriate (initially 3:1) enhancement to disturbance acreage ratio.

- On-site/Off-site

3. Conservation Easements or property rights acquisition to assure their continued habitat function, or provide an area for enhanced habitat function (e.g., maintenance of corridor and bottleneck passages, protection from development, establishment of forage reserves, habitat enhancements at an appropriate (initially 3:1) enhancement-to-disturbance ratio).

- Modification of Operations

4. Recommend, for consideration by Operators and BLM, adjustments of spatial arrangement and/or pace of ongoing development.

What Mitigation is and is not:

CEQ defines Mitigation in 40CFR 1508.20 (avoid, minimize, rectify, reduce, compensate).
Mitigation IS a tool to lessen impacts (scope, intensity, frequency, and/or duration).
Mitigation IS a process to offset some impacts.
Mitigation IS NOT a guarantee there would be no impacts.
Mitigation IS NOT a tool to reverse an impact once it has taken place.

General Public Observations

"Reference units are not perfect"
"Difficult to find collared deer once they move off of the winter range"
"Treatments to date have been on a smaller scale"
"Ryegrass is holding more deer than in the past"

Guidelines for Future Action

"Enhance Habitat without Killing Sagebrush"
"Redouble Efforts in Transition Ranges"
"Sommers-Grindstone Easements are areas for Future Habitat Improvement Work"
"Work where the deer are, not where it is easiest"

Suggestions for Future Action

"As wells are completed move as much of the disturbance to reclamation as quickly as possible"
"Look at Transitional Areas as locations to quickly turn around mule deer body condition and provide higher quality forage during light winters"
"Expand project size for bigger benefit"

"Clearly describe what is expected from a project and monitor the starting conditions to determine if the object is a benefit and if it works"

Already Decided In the ROD

"We don't have a perfect reference unit"
"Winter Drilling is the mitigation we are missing out on. Don't ignore this and say we need to monitor more and mitigate more. Winter Drilling is what's in front of us"
"Do not allow exceptions"

As a result of the sub-categorizing step

Took the 84 comments and further categorized them
Identified SEVENTEEN things that were "ACTIONABLE"
Identified: What could be done? Who would do it? When it could be done? (Immediate, short term (1-2 years), mid-term (2-5 years)

Actionable Items

1. Coordinate with USFS monitoring of mule deer in relation to the Noble Basin Project
2. Initiate expanded monitoring of mule deer in the Upper Green River area
3. Look for larger scale projects
4. Continue applying mitigation, monitoring results and adjusting response
5. Define "MITIGATION"
6. Be thoughtful and deliberate in identifying where to apply mitigation. Develop partnerships and coordinate activities across agency lines to leverage limited funds, prioritize projects with proportionally larger and/or broader returns over those with single resource benefit
7. Be cautious when entering current high use areas. Weigh the cost : benefit and take lower risks with vegetation manipulation
8. Focus off-site mitigation treatments in migration routes and higher elevations where better response can be predicted
9. Complete conservation plans; coordinate regarding seeding and other developments being proposed for conservation plans
10. Work where deer are first
11. Consider other uses and their impacts when identifying mitigation response
12. Identify priority areas such as winter concentration areas and migration routes where enhanced reclamation and enhancement efforts can be completed
13. Look at other non-native species for reclamation which produce higher quality browse and provide for a quicker return to productive mule deer winter range
14. BLM, WGF work with entities who are drafting ranch plans for the private lands within easement areas monitoring is already a part of these plans and some soils inventory is already completed
15. Identify what we are expecting from mitigation projects before we do them, monitor for success, and use the information to adapt future treatments
16. Undertake habitat condition inventories of un-fragmented habitat
17. Continue utilizing directional drilling technology to address wildlife resources without affecting pace of development or instituting modification of operations before sequential mitigation process is complete. Ex. Directional drilling technology offers a means to develop the resource with less surface disturbance in areas of particular importance to mule deer winter/migration use

    *Needs to continue to be cognizant of other resources constraints

WHAT'S GOING TO BE DONE

Define Mitigation

Short Term:

- BLM will clarify how the decisions of the SEIS ROD address the mitigation definitions contained in 40CFR 1508.20 (avoid, minimize, rectify, reduce, compensate)
- Explain what the SEIS ROD mitigation package was intended to produce during the life of project.

WHAT'S GOING TO BE DONE

Coordinate with USFS monitoring of mule deer in relation to the Noble Basin Project

Initiate expanded monitoring of mule deer in Upper Green River Area

Immediate/short term:

- Discussions have already taken place with USFS
- Consider extending the monitoring of mule deer habitat conditions out of the immediate Mesa area to attempt to learn more about how other parts of the Mesa mule deer range may be affecting body condition and to identify where future habitat improvements could be effective
- Coordination with USFS regarding monitoring efforts/sharing of contractor, look to capture this in the Eagle Prospect Noble Basin Project ROD

Mid term:

- Continue to share results of monitoring with public as it comes in

Look For larger scale projects

Be cautious when entering current high use areas. Weigh the cost: Benefit and take lower risks with Vegetation Manipulation

Focus Off-Site Mitigation Treatments in Migration Routes and Higher Elevations where better response can be predicted

Work where the deer are first

Consider other uses and their impacts when identifying mitigation response

Immediate:

- PAPO staff project identifying core areas and developing priorities

Short term:

- Coordination with WGF, Mule Deer Foundation, NRCS, WLCI, Wyoming Land Trust, others to build relationships, identify priorities, and leverage PAPO dollars
- Initially prioritize treatments where rest can be incorporated without major costs or changes to established uses
- WYDOT approved funding of wildlife over/under-passes, construction scheduled to begin spring 2011

Mid term:

- Project planning priorities based on conditions, site potential, level of use, location, other uses
- BLM WGF and County Commission reevaluate the bridge across the New Fork
- Once over/underpasses are complete, WGF compare traffic trends and wildlife mortality. BLM and WGF work with operators to redirect traffic out of high wildlife use areas during key periods

Continue Applying mitigation, monitoring results and adjusting response

Identify priority areas such as winter concentration areas and migration routes where enhanced reclamation efforts can be completed

Look at other non-native species for reclamation which produce higher quality browse and provide for a quicker return to productive mule deer winter range

Immediate:

- Continue coordinated monitoring of past projects, collect baseline monitoring for approved projects

Short Term:

- Annual review of reclamation and monitoring plan
- Within 3 months WGF provide BLM with list of reclamation species
- Within 6 months BLM initiate adaptive management if necessary, to modify reclamation plan to allow use of non-native non-invasive browse species
- BLM and WGF identify priority areas (migration routes and winter concentration areas) on the Anticline where enhanced reclamation (container planting, modified species lists etc.) will be beneficial
- By 2012 reclamation season, operators implement new reclamation standards in priority areas

Be Thoughtful and Deliberate In identifying where to apply mitigation. Develop partnerships and coordinate activities across agency lines to leverage limited funds, prioritize projects with proportionally larger and/or broader returns over those with single resource benefit.
Identify what we are expecting from Mitigation projects before we do them, monitor for success, and use the information to adapt future treatments

Immediate:

- Coordinate with WGF, Mule Deer Foundation, NRCS, WLCI, Wyoming Land Trust, others to build relationships, identify priorities, and leverage PAPO dollars

Short Term and Mid Term:

- Prioritize Project Proposals For PAPO Funding (Mule Deer and Sagebrush Centered Proposals With A Focus In Priority Areas On/Off Site)
- Emphasize through the application and review process for PAPO funded projects, that specific, achievable and measurable habitat improvement objectives are defined so that the PAPO staff may better evaluate the benefits of a project, the public can see how a project can affect mule deer or sagebrush, and the PAPO board can make more informed decisions whether or not to fund a project
- Continue providing project proposals for public input into project review and consideration
- PAPO staff project (later in program)

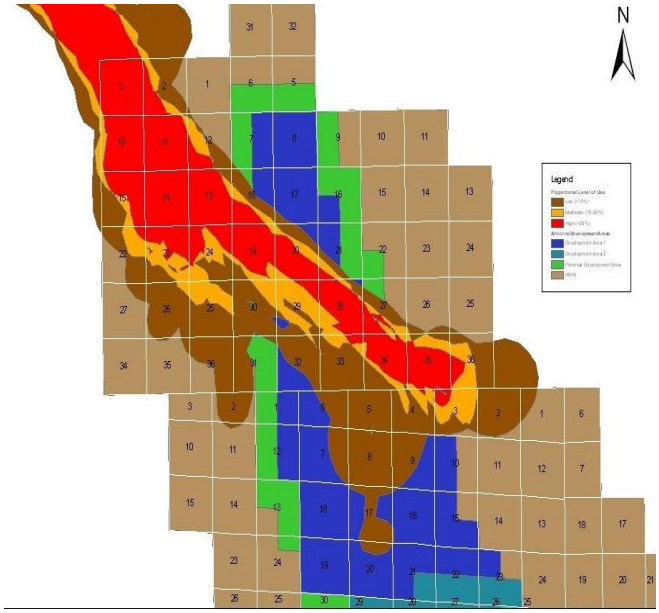
Continue utilizing directional drilling technology to address wildlife resources without affecting pace of development or instituting modification of operations before sequential mitigation process is complete
Ex. Directional drilling technology offers a means to develop the resource with less surface disturbance in areas of particular importance to mule deer winter/migration use

Short Term:

- Allow ROD To Continue Working
- Continue Using Adaptive Management (This Process Is Working)
- Continue Monitoring Conditions Closely
- According To The ROD, If Undesirable Changes Continue To Occur, Implement Additional Mitigation Treatments

Mid Term:

- As Concentrated Phased Development Moves Into The Next Geographic Block Within DA1, WGF BLM And Operators Look At Ways to Configure The CDAs To Avoid Or Minimize Overlap On Migration Routes And Concentration Areas
- One Of The Goals Would Be To Reduce the “Blockage” Of The Narrow Migration Routes Or “Plugging” Of The High Concentration Areas With Winter Drilling Activity



BLM and WGF work with entities who are drafting ranch plans for the private lands within easement areas monitoring is already a part of these plans and some soils information is already completed. Complete Conservation Plans; Coordinate regarding seeding and other developments being proposed for conservation plans.
Conservation plans were created for every easement area.
Short Term:

- BLM and PAPO staff coordinate with entities preparing or updating ranch plans to identify plan status and see if there is an opportunity to be involved in priority habitat areas. Habitat inventories and project proposals could result
- PAPO staff will, in summer 2011, initiate discussions with easement landowners to review their conservation plans and discuss plans for maximizing benefits of the conserved areas for wildlife; habitat inventories and project proposals are expected to result
- PAPO staff and WGF identify priority habitat areas within Conservation Easement Areas for habitat improvements. For willing landowners, look for opportunities to leverage mitigation dollars to propose and develop projects which would improve important habitat

Undertake habitat Condition Inventories of Un-Fragmented habitat
Short Term:

- Within one year, WGF and BLM identify un-fragmented habitats within priority mule deer winter and transitional range related to Mesa

Mid Term:

- Within two years BLM and WGF undertake inventories of current habitat conditions within these habitat blocks, Identify threats and prioritize habitat improvements where possible to offset these threats.

ANNUAL DEVELOPMENTS WILL CONTINUE TO RESULT IN REFINEMENTS OF THE MITIGATION RESPONSE

***This Power Point presentation is posted on the BLM Website

9:50 Sublette Mule Deer Mitigation-Power Point Presentation/Dan Stroud-Wyoming Game & Fish Department Representative

Information was presented in an attempt to identify a plan for how to address mitigation for mule deer. It focused on what we might do immediately versus what we should do for the longer term. In addition, it addressed some things being done in other states for enhancing mule deer habitat. It covered where we are at as per the ROD Matrix and where we should go from a mitigation perspective.

Background-How did we get here?

- The Pinedale Anticline ROD Matrix specifies under mule deer that a "15% decline in any year, or cumulatively over all years, compared to reference area" will trigger a "mitigation response"
- Mitigation response for mule deer states "Select mitigation response sequentially as listed below, implement most useful and feasible and monitor results over sufficiently adequate time for the level of impact described by current monitoring
- Initial mitigation will utilize Mitigation Responses 1, 2, and 3
- Priority for mitigation will be given to those habitats designated as most crucial or important

As the ROD matrix indicates, a 15% decline in mule deer during any year triggers added mitigation responses. As most of you know we reached that threshold this last year. Due to this fact, our mitigation team has undertaken an analysis to determine what direction we should take. To start the process, we undertook an extensive literature review to determine what was and is being done for mule deer elsewhere and other relevant information. We will be posting that review along with this presentation on our website after this meeting.

Mitigation Responses:

On Site:

1. Protection of flank areas from disturbance to assure continued habitat function of flank areas, and to provide areas for enhancement of habitat function.
2. Habitat enhancements of SEIS area (both core/crest and flanks) at an appropriate (initially 3:1) enhancement-to-disturbance acreage ratio.

Off-site:

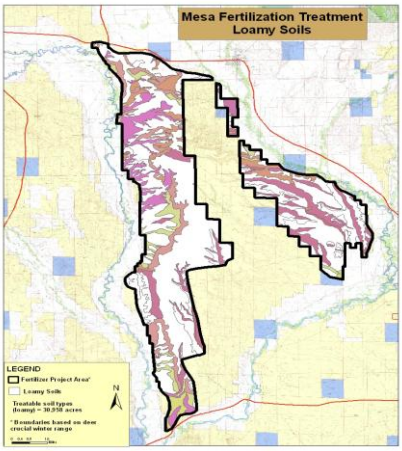
3. Conservation Easements or property rights acquisitions to assure their continued habitat function.

These are the responses outlined in the matrix, indicating both on and off-site responses.

ON-SITE – On-site responses will be similar to off-site, and that is examining what we have there in the way of opportunities for habitat enhancement.

OFF-SITE – This indicates conservation easements or acquisition of property rights but also includes many other facets (e.g., maintenance of corridor and bottleneck passages, protection from development, establishment of forage reserves, habitat enhancements at an appropriate (initially 3:1) enhancement-to-disturbance acreage ratio).

Mesa Fertilization Treatment Loamy Soils



Short Term On Site Mitigation /Fertilization/Identify most productive soils.

Our team broke out mitigation responses from an immediate response to longer term responses. One suggestion for on-site mitigation was that we look at what we can do immediately for mule deer. Most habitat projects, at least in G&F, have targeted some sagebrush treatments that thins or kills some sagebrush. These types of treatments take time to lay out and implement, especially with sage-grouse concerns in core areas. One potential idea is the possibility of fertilizing native range on a much larger scale. As some of you may know, we did some fertilizing last fall on an area of a little over 400 acres in size, using two application rates. If our results from this effort appear to be successful, we will be examining whether we might target other areas. This map illustrates one layer that would need to be considered. The area that illustrates the various colors is the flank area, and the various colors relate to different soil types that occur. The white area in particular, would be the potential focus area for a fertilizer project, because of the associated soils, which here are primarily loamy. The acreage of this area is approximately 31,000 acres. In addition to soils; we will also need to consider slopes and anything greater than 10% should probably not be fertilized. There are also some concerns with fertilization, in that if you have a weed problem developing, fertilizing could exacerbate that problem, so that would also be used to determine where we might use fertilization as a treatment.

Other On-Site Mitigation Opportunities

Short-term:

- Enhanced reclamation, including potential for shrub seedling plantings
- Small vegetation treatments that fit in with stipulations placed on sage-grouse core areas
- Inventory and modification of fences to ensure their compatibility with wildlife needs

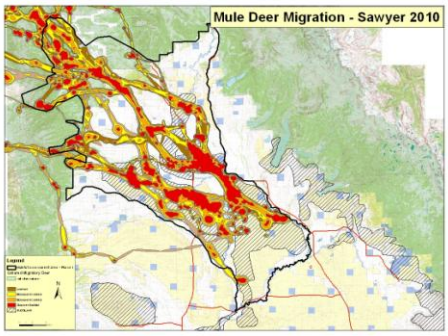
These are a few more ideas for on-site and shorter term mitigation. Relative to the planting of shrubs, Idaho has implemented a program for this that has been pretty successful, and I'll show some photos of their work shortly. Other opportunities could focus on the smaller types of vegetation (sagebrush) projects that I mentioned previously, as well as a fence inventory and modification where necessary

Longer-term On-site Mitigation

- Habitat assessment specific to mule deer
- Follow assessment with habitat plan to address findings
- Reclamation trials and seedings with species that are specific to the wildlife utilizing the area

This pertains both to on and off site mitigation options. For longer-term needs related to mule deer and mitigation, we should look to do a larger scale habitat assessment, similar to that which was performed for the Wyoming Range Mule Deer Herd Unit. My preference would be to initiate an assessment starting with those deer migrating to the Mesa, followed by additional assessments of other portions of the Sublette Herd Unit. The assessment would then be followed by a plan with delineated areas from the assessment, of how we would approach projects throughout the area assessed, similar to how the Wyoming Range Project is progressing. Relative to reclamation – there are a number of possible thoughts and species that could be examined, perhaps on a trial basis for determining their potential usage on the Mesa.

Off Site Mitigation



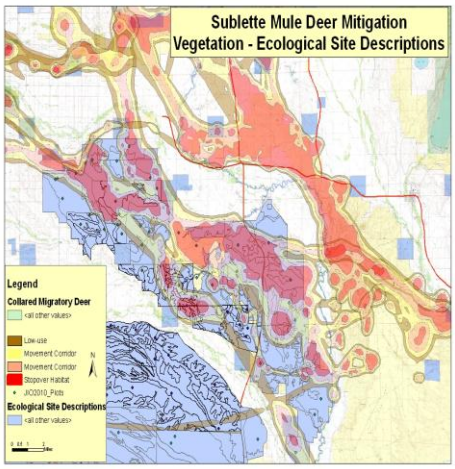
Mule Deer that utilize the Mesa.

STEP-WISE PLAN

For longer term mitigation, need to determine areas of importance to mule deer. This map illustrates mule deer travel patterns and "stopover areas" and was provided in studies conducted by WEST. It illustrates mule deer distribution and migration of collared mule deer that migrate to the Mesa. Areas in red are referred to as stopover habitat, and are those where mule deer concentrated on their way to or from winter ranges, or in some cases within crucial winter range itself. We will be looking closely at these areas for potential habitat needs.

The questions we need to ask are what, when, where and how. From a prioritization perspective, we should start with areas we know mule deer are using and, in particular, areas where they spend added time (e.g. the red areas).

Where do we start?



This map depicts various things at once. The red areas are those areas from the previous map that were labeled as "stopover" areas for mule deer. The new blue polygons I have added are areas where we have relatively good vegetation inventory information.

So, A SECOND STEP in this process would be to overlap the red areas with those areas where we have good information (blue areas). In any type of activity that focuses on vegetative/habitat projects, you may want to go first where you have the best information. Point out migrations again – refer to blue areas as areas where veg. inventory information has taken place – data points illustrated correspond to polygons. The inventory information represented by the areas in blue was initiated with JIO funds, as this was also an area of interest from a sage-grouse and pronghorn perspective. Data collected was that which uses Ecological Site Descriptions and associated data parameters.

Inventory Information Available

Ecological Site Descriptions – What are they?

Useful data includes:

- Condition
- % Shrub Canopy Cover
- Relative Diversity of site, including all plant species encountered
- Soils
- Shrub condition – as determined by recruitment (e.g. seedling, young, mature, decadent, dead)
- Photos of site

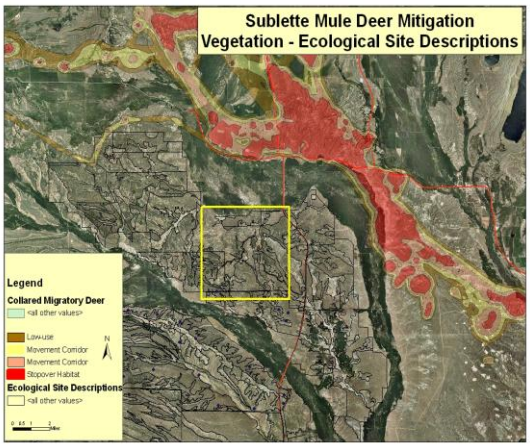
The inventory information that I referred to in the previous slide involves what is termed ecological site descriptions. So, what is an ecological site description and what is its utility relative to this effort? An ecological site is defined as a distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation (USDA 1997). They are also accepted by 3 federal agencies, including BLM, NRCS and USFS. Perhaps the biggest distinction relates to the fact that they are soil and precipitation based, so can help identify what types of plants can actually be encountered on the site, as well as how a site may respond to any treatment, due to the soils basis. This is the type of data we have received from our efforts.

2-5 Year Mitigation Plan



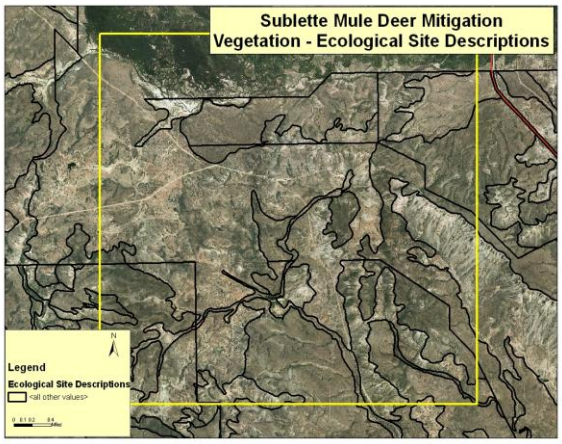
Data collection at the points also included photos taken from the 2 different directions with close-ups on the transect line. Photos of site can be very helpful in recalling the associated condition of the site, and associating the data that was collected. Every ecological site contains a description of the site that includes a variety of information that aids in any related decision making to tailor it to what that particular site needs. While this may seem like we are venturing into the weeds, these contain relevant information that is helpful to any planning associated with this site, including: ecological dynamics of the site, historic climax plant community, a state and transition model which also gives suggestions on treatment for changing that status, and a list of species that could potentially occur on the site (which could be used if seeding may be desirable).

Refinement of Information:



This map goes back to the migration corridors and associated ecological sites – I've left out the corridor and "stopover points" in the area I want to concentrate on to better illustrate the polygons associated with the ecological sites.

Data Refinement



Here is the blow-up of the previous map. I've overlaid the ecological site polygons on the latest imagery for the area. Note that within any ecological site (POINT OUT), there are mixtures of vegetation that corresponds to transitional states in the ESD handbook. We will need to refine information within those ecological sites that are of interest, and tailor it to certain vegetation that has attributes that correspond well to any on-the-ground treatment or manipulation.

Habitat Enhancement (cont'd)

Specific tools for treatments will depend on various site attributes including:

- **Soil type** (loamy soils typically have better capabilities for response)
- **Precipitation** (greater precipitation will produce quicker results and also are conducive to better success)
- **Current management** including livestock use and distribution
- **Other ungulate use** (including level of use by mule deer)
- **Current site condition**
- **Shrub species and subspecies** targeted, and other existing vegetation on site.

With any treatment you need to examine numerous factors that may affect the treatment and associated outcome. This is a list of some of those factors**. In particular, I'd point out the annual precipitation plays a major role relative to the response and timeline for that response.** The higher in elevation you go, the greater the precipitation, and the quicker the response. Related to this and areas of lower precipitation, if you look at many of the treatments in the Big Piney area that were performed in the past, you'll note that even after 15+ years, sagebrush is slow in returning to sites that were either mowed or burned. This slower response is due to a large degree to the lower precipitation you get in these areas. Comparing that with a recent treatment in the Upper Green where an aerator was used, results were almost immediate. I've observed with some treatments, mountain big (ppt) sagebrush return to near treatment canopy cover within 10 years, as opposed to Wyoming big sagebrush that is much slower.

Habitat Enhancement (cont'd)

Seasonal range:

- The season of use plays an important part in any treatment

Spring and fall ranges should typically focus as much or more on providing the herbaceous component as it does on shrub conditions. This period and especially during the spring is

important for getting the does in shape for fawning and in some cases just getting the nutrition level up after winter.

- Winter ranges typically focus more on shrubs and shrub productivity. In some instances providing added shrub diversity can greatly expand the winter survival and capacity of the winter range

Also, for setting treatment objectives, you need to consider time of use by the species of wildlife you are targeting. For mule deer, season of use is critical to what they are eating. For a treatment in spring and/or fall ranges, your objective may relate more to the herbaceous component, than to the improvement of the shrub component. Winter ranges need to focus more on shrubs and shrub diversity, than do areas that are more transitional in nature. This will affect both the site and type of treatment that you want to look at.

Mule Deer Needs – Data &Research

- Most western states currently have management plans specific to mule deer and are looking at associated habitat needs
- Western Association of Fish and Wildlife Agencies – formulated a mule deer working group
- Current research in various locations (e.g. Colorado, Idaho, Nevada, Utah) identify nutrition as an aspect currently limiting mule deer's ability to increase in numbers. This is especially important; not only on winter ranges, but on transitional ranges as well.

As a part of this analysis, we examined numerous sources of literature. We found a lot of current work that is tailored to mule deer in various states. In addition to this, the Western Association of Fish and Wildlife Agencies (WAFWA) formed a mule deer working group and have numerous publications out, including one specific to the Intermountain Region.
One key that many states and habitat related needs is currently focusing on is nutrition, and in several research articles indicated that it was nutrition that is currently limiting mule deer numbers in other states.

Mule Deer Needs – Data &Research

- Some reports have pointed to shrub age as an important aspect of mule deer habitat, indicating older aged plants are more typical with most evaluations
- In addition, older plants typically produce leaders with greater lignin; greater secondary compounds which limit digestibility and less vigor

Something also related to nutrition is shrub age and shrub diversity. Several reports and in particular, one report from Nevada indicated that they are faced with a lot of older sagebrush plants; and elaborated extensively on how older plants are hard for mule deer to digest, indicating both an increase in lignin and volatile oils. In addition, older plants tend to be less vigorous. One only needs to look at the Mesa winter range during dry years to determine what mule deer are forced to survive on here. In drier years, we have less than $1/10^{th}$ of an inch of annual leader growth. In those cases, mule deer are eating past year's growth, which has even less nutrition than annual growth on an older aged plant.
Additionally, Rick Danvir from the Deseret Ranch indicated to me that adding additional browse species into winter ranges can double its productivity from a mule deer wintering perspective.

Habitat Enhancement

Numerous efforts are underway in various states to enhance mule deer habitat and include the following:

1. Restoration work including seeding after wildfires
2. Mechanical treatments such as crushing with an aerator and including seeding with the treatment; also listed are chaining, disking and imprinting, pipe harrowing and aerating
3. Prescribed burning
4. Chemical thinning
5. Mowing
6. Planting of shrubs and aspen (Idaho)
7. Control of invasive species such as cheat grass

This is just a list of various efforts in other states and the type of work that is being done to enhance mule deer habitat. Several states are keying in on pinion-juniper habitats that have illustrated an encroachment of trees over time that has greatly reduced the understory, and associated vegetation that mule deer prefer. Mostly, this is just a list of "tools" we have to work with – each with a separate set of effects that they produce.

Local Habitat Work

- Treatments have been done on the Piney Front area for the last 20 years and results from Eric Maichak indicated the following:
- All treatment types have boosted grass production and reduced sagebrush density and cover
- Pitting/Ripping treatments increased forb production
- Spike Treatments decreased forb production
- Moisture (rather than treatment type) controls forb spp. richness
- Mechanical and Spike treatments provide greater control over resulting sagebrush cover and density than does fire

We have done quite a bit of work right here in the Upper Green River Basin, to address either mule deer and/or elk needs. Some of this was the result of an earlier pool of mitigation funding brought about by a 1988 well on mule deer winter range by Chevron in the Calpet area.
Eric Maichak gave a presentation just this year on some of this work, and gave me this summary of what the information indicates. Treatments evaluated included pitting, ripping, mowing, Spike (herbicide), and prescribed fire. The very general results are listed here from the data collection.

Habitat Responses

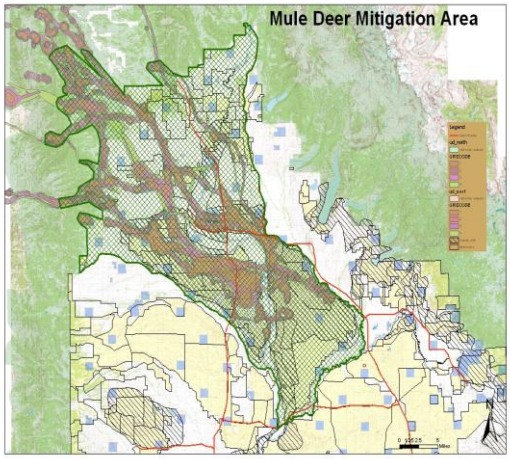
Numerous states are working hard on mule deer issues. More locally, we have a similar effort targeted at the Wyoming Range Mule Deer Herd Unit, which is just to the south of Sublette Deer. It involves this type of planning framework, starting with the assessment.

Off Site Mitigation/Other Opportunities/Shrub and/or tree plantings

Idaho has had good success with both shrub and aspen plantings. This type of project could feasibly be done on or off site. Idaho was able to plant bare root stock at a cost of approximately $0.25-0.50/plant. They collect seed every year and send it to a nursery out of Boise for propagation. They have planted between 25-50,000 plants per year and have had good success. They have also had luck with "mat plantings" (bitterbrush), and in higher

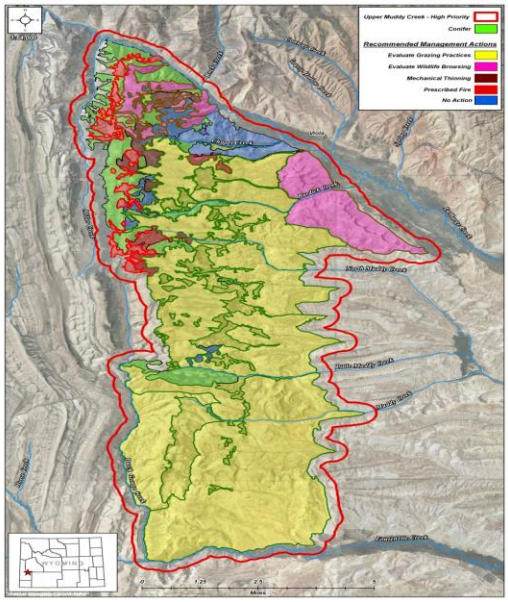
precipitation zones with the planting of aspen, chokecherry, serviceberry, mahogany and other desirable shrubs in 5-10 acre patches.

Off-site Mitigation Long-term



For a longer term plan, we should go about an assessment throughout the migration corridors similar to what has been done for the Wyoming Range by the Teton Science School.
This assessment should be the same type as was done in the Wyoming Range, which identifies habitat conditions and opportunities for projects to enhance habitat for mule deer.
Mule deer, like some of the other wildlife species, are landscape scale species, and in order to affect any population level response, you need to examine the area that they use from a large perspective.

Example of habitat assessment for Wyoming Range deer herd.



This map is from an assessment for the Wyoming Range Mule Deer performed by the Teton Science School for the Wyoming Game and Fish Deptartment. As noted in the legend, there are various recommendations for each polygon and include evaluation of grazing management and wildlife browsing, mechanical thinning of shrubs, prescribed fire and no action. In case it's not

clear, recommended management actions for each color include areas in yellow evaluate grazing practice. Areas in pink evaluate wildlife browsing. Areas in dark red suggest mechanical thinning of shrub stands. Areas in bright red suggest opportunities for prescribed fire. Areas in blue indicate that "no action" is recommended.

Additional Data Needs

Monitoring:

- What are mule deer using during various times of the year?
- What are other ungulates including livestock foraging on? Is there competition?
- Monitoring vigor and nutrient quality of shrubs in and out of treatment areas

Future information needs that would also help identify and target potential treatments, include these. We have some information that may be relevant that was obtained from fecal sample collection for the Chevron Mitigation Project; however, added information on this could also be helpful, in that the two areas differ in their existing vegetation.

It's helpful to know if there is already existing competition on the ground, either from livestock or other wildlife species. Shrub vigor, is of particular importance, as well as if there are "replacement" plants – are there any young plants in the understory? How much diversity is there on the ground, both from the shrub perspective as well as other plants that may be of importance to mule deer? This may be more relevant during transitional periods.

Treatments/Enhancements

While there has been quite a bit of work done with associated monitoring, there is still room to apply other types of things. Some of the possibilities may include:

- Small prescribed burns followed by seeding with plants that may be missing but suitable to site (Ecological Site Descriptions can be used to select species)
- Dixie harrow and Lawson Aerator with seeding in lower ppt areas
- Planting of falcata alfalfa on private lands (e.g. ditchbanks)
- Work with landowners on stackyard fencing where deer get in to hay – may be able to help reduce mortalities of mule deer
- Treatment of smaller areas comprising important browse species, including bitterbrush, and other mixed mountain shrub communities found on southerly aspects (snow drift areas)
- Identification of potential treatments that will continue to allow needed sage-grouse nesting & brood-rearing cover
- Work where feasible to implement grazing strategies that do not use the same area during the same season every year – in particular the spring-early summer during active plant growth
- Work with USFS to examine the potential of timber-related treatments for enhancing spring ranges for mule deer
- Treatment of smaller areas comprising important browse species, including bitterbrush, and other mixed mountain shrub communities found on northerly aspects (snow drift areas)
- Identification of potential treatments that will continue to allow needed sage-grouse nesting & brood-rearing cover

- Work where feasible to implement grazing strategies that do not use the same area during the same season every year – in particular the spring-early summer during active plant growth
- Work with USFS to examine the potential of timber-related treatments for enhancing spring ranges for mule deer

Wrap Up

- Continue to review literature for other treatments, etc. that may have been missed
- Continue to examine what we can do from a reclamation perspective for various species of wildlife; of particular importance are legumes
- Examine where we can reduce winter human impacts (e.g. is all current disturbance necessary? Can we close more roads?, etc.)
- Consider closer examination of sage-grouse (and other species) responses to any type of treatment

While we compiled a lot of literature, we didn't see all of it, so this should be an ongoing effort. There is always new literature coming out, as well as a lot of older literature I know we didn't examine. Reclamation; while not mitigation is perhaps one of the most important on-site habitat projects we can address from a wildlife perspective. In many cases companies are doing a decent job, but we can always do better. The third sentence here speaks for itself – if there are ways to avoid or reduce human disturbance, we should determine if it can be done. There is currently a large volume of information dedicated to how disturbance affects mule deer, including that of the G&F in their on-line paper related to recommendations for oil and gas drilling on BLM lands. The final note here relates to the need to ensure we are adequately monitoring everything that is being done, so we can determine if it was successful, or if it was something we shouldn't bother doing again.

***This Power Point presentation is posted on the BLM Website

10:25 Questions and Clarification:

Courtney Skinner: Dan mentioned introduction of seeds and shrubs on the Anticline that could possibly increase mule deer on the winter range and improve nutritional factors. What are the possibilities of introducing and replanting those seeds and shrubs on the Anticline? Dan Stroud: From a Biological perspective we are looking into that with Game & Fish and with the Mitigation department at the BLM. Some of those seeds are hard to get so we may take some seed collections. There are some species of rabbit brush that are relatively interesting. They are sub species that get fairly tall in good moisture conditions. We planted some near Soda Lake and they established very well. That is something we are looking into. There are also some species of Sage that we are looking into.

Rollin Sparrow/TRCP: Dan, how much money is available to do the work at the size and scope you are talking about? Dan Stroud: That depends on what we have annually but I believe it is a million dollars a year. It also depends on how many wells are drilled per year. John MacDonald JIO/PAPO Project Coordinator: We have approximately 2 ½ million dollars in the PAPO fund this year and after we subtract what we have to use for wildlife monitoring and salaries it leaves us with approximately a million dollars a year. It also depends on what the board wants to spend. There is about 17 million dollars total that we have access to. Shane DeForest: We are actively in the process of looking for opportunities to build upon the work that others are doing in sage brush and various other species to see if we can leverage

those dollars. So the idea that there is only money available from the Anticline and Mitigation funds is probably not an accurate statement. There are very likely other entities or organizations who are working in the same areas of sagebrush and other species that would be willing to put their money together to work us so we can get mutual benefits. Dan Stroud: We had 16½ million to spend and we spent at least 13 of that. But we were able to leverage that and we received another 50% from other contributors.

Tom Curry: Shane, you stated there were a lot more deer in the Ryegrass than there have been in the past. Is there any data supporting that? Shane DeForest: To clarify, I was restating a comment that was made in the October presentation. It was a general observation from the public. Tom: Have you checked with the highway department to determine what the mortality rate of mule deer has been since the oil fields began? Shane: We have done some checks with the Highway Department after the November PAWG meeting and it was reported somewhere in the area of 1700. Tom: I looked into it and the numbers were 120-130, which is quite a bit different than your numbers. Shane: I am referring to the information that was provided in tabular format after the November PAWG meeting. I cannot comment on that. Tom: Are you going to be managing fall grazing? Shane: One of the priorities will be to look first at those areas where we can accomplish the kind of rest you are suggesting without impacting the grazing system. Once there we can look into follow up treatments and into those areas where we accomplished some kind of grazing management adjustment in order to achieve the rest to provide for that establishment. Tom: Are the areas that are in crucial winter range and transit migration routes being withheld from leasing to future oil field development? Dan Stroud: The ryegrass areas are set aside from future leasing to protect the mule deer herd. That is what the RMP states. Tom: Have you studied fertilizer response? I don't believe we get enough precipitation to have fertilizer be a viable solution. Dan: I believe we will get a good response from our 400 acre treatment. Shane: That is the intent behind the adaptive management approach; monitor the results and determine the effectiveness, apply what you learned to apply to the next series of treatments. Tom: Deer don't want to move as they are habitual in their use areas. Are they going to go to the areas that have been treated? Dan: Specific to fertilization studies we found that they do use those areas.

Rollin Sparrow: Most of the mitigation you announced is habitat emphasis; much of which is acknowledged to be long term. How is that related to specific population objectives related to deer? Shane DeForest: We are first going to be looking at the areas where the deer are. Before we undertake the treatments we are going to define what we are expecting to have happen. If we undertake a shrub restoration treatment and we have an inventory suggesting a certain canopy cover of sagebrush and we want to increase that canopy cover then we need to define that ahead of time. Dan Stroud: Were you asking if some of the habitat were relative to current population for Sublette mule deer? Rollin: No, my concern is the mitigation response to the continuing decline of the deer that are primarily habitat. What objective do you have for deer numbers and how will you measure it and know if it is worth it? There needs to be a population connection to this to understand if there is a benefit to of all of this. Shane: We have a need and we are going to be addressing it over the course of the next year to clarify what the mitigation process is. Remember, mitigation is not a tool to reverse impact. It is a tool to avoid, minimize, rectify, reduce, or compensate. The goal is to accomplish one or more of those categories. Rollin: Once the resource is damaged and documented there is no obligation or intent to restore or replace the damage. If we do not slow things down or change those en route, in the end the deer are gone. John Emmerick/Wyoming Game & Fish: I am hoping that by what we are doing currently things will stabilize and then those areas will have time to enhance to offset some of the losses. Shane: The continued implementation of that sequential mitigation, monitoring and doing additional work is meant to address the undesirable changes we have seen.

John Huston/Assistant Field Manager/Resources: I wanted to provide some clarification on the Leasing Issue. 48% of this field office is unavailable for leasing. We do take a very hard look at those areas especially where the big game are concentrated.
Bev Sharp: Time is the essence and we are behind. The industry is developing faster than we can keep up and I see no hope for the future. I gather we are under the procedures abroad and there is no consideration to pause for a year. Shane DeForest: We need to keep in mind that the analysis that went into the record of decision for the development of the Anticline concluded that there would be significant impacts. What we are seeing today is not unexpected. We are monitoring that process and implementing these mitigations.

Chris Sullivan: Where is the drilling going to move next? Shane DeForest: Operators come to the annual planning meeting and make recommendations for us to consider. Where they go next depends on proposals from the operators, but they will move north. Chris: We are already here today discussing mitigation. Are we concerned that we haven't even reached the priority areas? Shane: When the ROD was signed in 2008 we entered into a two-year transitional period that ended last November. At that time there was activity for delineation and construction of the liquid gathering system. So up until November there were higher levels of activity. What we are seeing today a product of that heightened level of activity. We are trying to mitigate for that but we are not there yet.

Paul Hagenstein/PAWG Board Member: Dan mentioned Falcata Alfalfa and it is a great feed but it is hard to get started. You can hardly find a seed that is more than 5-10% germinated. It does not grow the first year you plant it. It could take up to ten years for it to grow but when it does it is a wonderful feed. Dan Stroud: Falcata Alfalfa requires a little bit more moisture but it would be something to try.

Bob McCarty: You have all the makings of an excellent habitat plan. Are you going to carry through and are you going to work in cooperation with the Forest Service? Shane DeForest: Today's environment does not require us to have a formalized habitat management plan to take advantage of the additional dollars. There are people working on sagebrush obligate species and if we did nothing more at this point than to make contact and cultivate those kind of relationships, their money is as good as ours when it comes to working on our projects. If their money is producing benefits for the Brewer Sage Sparrow and our money is producing benefits for the mule deer, then why can't we put that money together? We are committed to doing that.

Neil Thagard/TRCP: We've been talking about where the deer are but my question is 'where do the deer need to be?' Shane DeForest: We went to the JIO/PAPO office and asked them to go back to their Game & Fish records from their mid-winter deer counts to find out where the deer have historically concentrated. We wanted to determine where they have been and where they are now to continue with mitigation. Dan Stroud: We need to start in the areas where they have been. Also, a lot of our monitoring is dependent on shrub conditions. Neil: Where they are and where they should be are two different things. Has there been displacement because of human disturbances? Shane: I don't think anyone could say that there hasn't been displacement. Where the animals are now, compared to where they have been would go back to the sequential mitigation process we started with. We will move from on-site to off-site and adjust from there. If we can increase the conditioning qualities of the habitat where they are now that would be an immediate gain.

Dawn Ballou/Pinedale Online: What are the numbers for mule deer taken in Sublette County? Can deer tags be reduced? John Emmerick: We set our seasons on an annual basis. If deer numbers are down

then we end up shortening the season to reduce the harvest. However, we do not take enough animals to affect overall population numbers. If we get below our desired buck/doe ratio we reduce the opportunity to harvest deer throughout our seasons. But I have a question for Dan, based on the analysis of looking at soil, vegetation, and conditions, roughly how many acres do we potentially have to work with? Dan Stroud: The larger projects are in the higher elevation zones versus if we are working with dryer conditions. Then we want to do smaller projects. But to answer your question as far as our fertilization approach, we identified approximately 31,000 acres that have opportunity.

11:00 Comments:

Shane DeForest: We heard from Dan that there are varying vegetation conditions based on various soils and where the animals are. I would like to hear feedback as to what cutoffs we might look at for existing habitat conditions that would represent priorities for doing additional work. Dan also stated there were a variety of treatments that we have some experience with. I would like to hear what kinds of treatments would be most beneficial from your perspective and experience. Another area would be seeding after we do the initial vegetation manipulation work. We would like to hear your thoughts about the kind of conditions on the range that would set as thresholds. If we are going to go to work in this kind of environment we ought to be sure to follow up with seed treatment. And finally, I would like to hear some ideas as to some of the species we can look into and how we can engage the public in these endeavors.

Rollin Sparrow: What is happening to the deer herd is unacceptable. Let's get the right people together to work on the deer habitat and population. For the 10 years we've been jousting with this issue we have a pretty well documented deer decline and now it is down to alarming issues. The elephant in the room is winter drilling, which started a couple of years ago. And what I understand from the BLM and Game & Fish is regardless of what's happening to the resources, we are not to address operations until the bottom falls out. The first eight years of development under the first ROD the BLM said they would take appropriate action and constrain operations if the resources declined, and I felt they didn't do that. The mitigation approach is what the wildlife field continues to do when their back hits the wall. They cannot forestall the attrition of resources so they fall back on 'let's manipulate the habitat'. There really is no evidence that mule deer, on a large scale, can be managed and mitigated solely by habitat work. So we are up against long term things, like in the Wyoming Range, succession. But here we have some short term losses and we are going to try and fix it to on and off-site methods that are not going to give us answers about the impact of deer until it's too late. We want to deny the results of the last research and suggest the deer went elsewhere out to the Mesa. We're in a perfect experiment right now to see what happens when they are displaced from the habitat they need. If the deer are kicked off the mesa they are subject to an ugly winter which would make the chances real good of a major die-off. If this happens I predict in a few months we will be in a big dispute that the BLM and Game & Fish will blame the die-off on 'bad weather'. I would refer to say that your definition of Adaptive Management does not match the policy of the Department of Interior handbook and does not match operational realities. If you start without an objective and a set of identified steps you can take if things get into trouble; if you don't do those things first, monitoring, evaluation, and taking action as needed does not work. The bottom line is we need to reconsider winter drilling.

Neil Thagard: We focused a lot on habitat today and what we are talking about is a species that has migrated for 12,000 years into this winter range and are now being displaced. With these migratory animals in this type of climate, we can't just go out and say we are going to 'create' this type of habitat. We need methods that can be tested and proven. There was a comment made in the presentation about how to mitigate mule deer. The impact of winter drilling is what needs to be addressed. It needs to be

measured and thought out. We need to put the brunt on the industry that is coming in and taking away the critical mule deer habitat.

Bob McCarty: I do believe we are in trouble, as far as mule deer are concerned. I have seen the mesa overpopulated and we all know they are displaced. But I do encourage the habitat management plan. I think it is great. We need to concentrate on what can be done and certainly, industry is a big part of that picture.

Chris Sullivan: I ranch in Boulder and I couldn't agree more with Rollin. I'm very skeptical as a person who has worked the land in Sublette County for over 20 years. The habitat program may work and is something we should pursue but I think the deer need more space. I came today to find out what we can do, as private landowners, to help.

Tom Curry: I look at the winter range lease stipulations by which all the operators in the room operate by and I see the deer populations that went from 3400 from pre-winter drilling to 1088. Then I wonder why the Game & Fish is not reinstating the winter range closing. What we are doing is making a lot of effort to have a lot of people employed to help the deer however I don't believe the crucial winter range boundaries have changed significantly since I was with the BLM in 1982. I don't see how we can keep waltzing around the elephant in the room.

Dawn Ballou: How many years does it take for a deer herd to double? Scott Smith/Wyoming Game & Fish: It seems it would take 3-4 years minimum to double the population based on normal recuperation rates.

Paul Hagenstein: Three years ago the Sagebrush in this area had six inches of new growth on every plant. If we have the right climatic conditions things can improve on their own. Dan Stroud: Paul is perfectly right. There is only so much you can do for habitat when you have winters like this but under the right conditions the habitat does well on its own.

11:30 Shane DeForest/Wrap up*: I appreciate the time, effort, questions, and comments from everyone. Today I captured some thoughts and ideas that we can give some consideration to. We can use the information everyone provided from the meeting today to build a habitat and population management plan for this area. Some of the ideas I heard today were that deer need more space and that we need to give more consideration to working with private landowners. I also heard that some of you plan to submit comments after this meeting and I look forward to your observations. We will take your written comments and put them on the website. If you see something that is not attributed to you I invite you to get back with me so we can make sure we've captured your ideas correctly. As we continue to move forward and identify the various items we discussed today you can expect to hear back from us. In closing, those of you who are planning on sending letters and comments, please get those to me within the next three weeks so we can make sure they are incorporated in the next meeting minutes.*

11:40 Meeting Adjourned

MEETING ATTENDANCE FORM

PURPOSE: Wildlife Annual Planning Meeting

TIME: FROM 9:00 am **TO** 1:00 p.m **DATE:** 2-23-11

NAME	ORGANIZATION
Jake Vialpando	BLM-HDD
John Ruhs	"
Margaret Spearman	USG
Art Russ	USG
Teresa Hetrick	Shell
Cat Urbigkit	media
Jeremiah Rieman	Governor's office
[illegible]	Pinedale Roundup
Daniel Kleine	Aster canyon
Scott Kosiba	Aster canyon
ROLLIN SPARROWE	TRCP
NEIL THAGARD	TRCP
[illegible]	
[illegible]	Shell
Dawn Ballou	Pinedale Online
Tim Murray	Shell
Nancy Fecik	Shell
Pete Guernsey	QEP
Dennis Beccve	QEP
Debbie Stanberry	QEP
Kevin Williams	QEP
Mellissa Cunningham	QEP
Joe Redman	QEP
Tom Meyer	QEP
Sara Madsen	QEP

MEETING ATTENDANCE FORM

PURPOSE: Wildfire Annual Planning Meeting

TIME: FROM 9 AM TO 1 pm DATE: 2/23/11

NAME	ORGANIZATION
Matt Nef[illegible]	S[illegible] Examiner
Tom Curry	—
Paul C Hagenstein	PAWG
[illegible]E Helwig	ULTRA
Brad Johns[illegible]	"
Cally McKee	"
Ron Aiken	Sub. Examiner
Bob Barrett	Private
[illegible]	WCF
Bubba Haley	"
M L Work	CURED
Therese Hartin	WCFD
John Huston	BLM
Tina Rock	CURED
Paul Rock	Private
Darci Sinclair	Shell
Chris Sullivan	
John Emmerich	WCFD
Steve Ferrell	"
Pat Hullman	[illegible]
Bob McCarty	

MEETING ATTENDANCE FORM

PURPOSE: [illegible] Annual Planning Meeting

'IME: FROM 9 AM TO 1 pm DATE: 2/23/11

NAME	ORGANIZATION
Bev Sharp	citizen
SAM SHARP	"
Elaine Crumpley	CURED
[illegible]	Ultra
Alexis Berg	Shell
C. J. Schmer	Self

Comment Letters:

March 1, 2011
Mr. Shane DeForest:

This comment is full of recommendations, observations, history, predictions and theory. I hope you enjoy reading it half as much as I enjoy sending it. I think about my time with BLM some. Mostly I think about the present and future. I could write a four volume trilogy about the Mesa. This is the abridged version.

Most people find it difficult to recognize landscapes in the long term. Winter drilling is a relatively short term impact (I hope). I believe long term habitat management should be the priority, although I am nervous about the political power of the oil and gas industry. I have always advocated a much slower pace of development on crucial wildlife habitats such as the Mesa.

I. Recommendations
Habitat Management:
I believe Dan Stroud is on the right track. I would do the same as he and I pray you will continue to recognize his contribution. I encourage you to put his ideas and plans in print, organized in a fashion similar to the old BLM Habitat Management Plan format (goals, objectives, planned actions, constraints, implementation schedule, etc). More information is available for the Sublette Deer Herd than I ever had for the three of four HMPs I prepared.

Large scale vegetation manipulations are not available anymore. Large burns, spraying, and mechanical treatments are logistical nightmares due to the current state of the range. Housing developments, industrial development, livestock and wildlife constraints and public opinion have all contributed to the demise of the major BLM range improvements (and wildfires) of the past. The only reason Yellowstone burned as well as it did was because the National Park Service had no idea what to do (luckily).

Any project on the crucial winter range portion of the deer range should be designed to promote a more vigorous shrub community. Reseeding with grasses and forbs is fine, but the deer eat mostly sagebrush on the Mesa, much of which is older to decadent. Projects designed to increase younger shrubs would have long term benefits for deer, sage grouse, and pronghorn.

Stick to native seeds, preferably gathered from plants already established on the Mesa. The mountain/Wyoming sage hybrid Dan mentioned sounds promising. Browse should be broadcast in late fall and raked in by hand or machine. Grasses and forbs should be drilled in late summer. Containerized plantings are expensive but could be an option, especially on reclaimed well pads and pipelines. If topsoil is replaced quickly after disturbance (pipelines, road cuts, some well pads) native seeds will often volunteer.

Be careful with nonnative seeds. Bitter brush was seeded on the north end of the Mesa following a 2-4, D application in the 1970s. It germinated and persisted for a few years but then died out. Blue Flax was seeded on the Riley Ridge pipelines which resulted in visually obtrusive purple

ribbons across otherwise native hillsides. I'm not sure what value it has as forage. We all know about Crested Wheatgrass. I have some in my yard in Bargerville. Deer do eat it in late winter when it greens up, especially along highway rights-of way which can result in death.

Transition ranges offer the best chance for successful vegetative response. Treatments should be designed to hold deer during late fall and early winter and lure them off winter ranges in early spring. Treatments on the Mesa are sketchy due to low precipitation. Large vegetation conversions should be avoided on crucial winter range. A light touch aimed at replacing decadent shrubs with seedlings and younger plants is advised. The oil and gas pads, roads, pipelines etc are already converting enough habitat. It will likely be a long time before quality deer forage will grow on reclaimed well pads.

Population Management:
The first Pinedale Resource Management Plan recognized Game and Fish population objectives for all big game species and committed to providing habitat to support them. Within 5 years WGFD wanted to increase their objectives as their population estimates indicated the herds had already exceeded the original numbers due to a series of light winters. The winter habitat was not available (in my opinion).

I have witnessed the Sublette Deer Herd increase dramatically when forage was available and winters mild and crash horribly during severe winters. Population objectives never made much sense to me. They always represented a number on a piece of paper not backed by any carrying capacity, science, or agreement. I don't know what the new RMP says about population objectives. The debate could resume with all the activity on their habitat.

The State is officially responsible for population management and various federal agencies and landowners manage the habitat. The rub comes when something happens on the habitat which directly affects populations. We all know the oil and gas industry has affected the Sublette Deer but we have not yet witnessed a major deer die off. This year could bring one. Whenever it happens, BLM and industry will be viewed as the main culprits. Some of the blame is deserved but much of the mortality would occur even if the well field were nonexistent.

If the politics were available I would suggest not allowing winter operations in the concentrations (red) zones identified in Hall Sawyer's study. I don't know how many years of data is represented by the map Dan used in his presentation. I wonder if there were other concentration areas where the current and past winter drilling has taken place. At a minimum the study should continue and document how those "core areas" change as oil and gas drilling moves north.

II. History
During the late 1980s and early 1990s the Mesa (and Big Piney/LaBarge) crucial winter ranges were in very poor condition. Advanced succession and drought suppressed grass, forb and browse production. We used to perform browse, pellet and production surveys back then. I

don't know if that information is available now. Deer populations increased and put extensive pressure on these ranges.

In 1986, the BLM implemented a major change to oil and gas operations. Winter range conditions of approval were attached to APDs even when the leases had no specific language requiring such. Industry was not happy and I was summoned to several meetings in Pinedale, Big Piney, Rock Springs and Cheyenne. A process for approving exceptions to the restriction was developed and I was in charge of analyzing all requests.

The Big Piney/LaBarge Coordinated Activity Plan (BPLBCAP) was approved and the BPLB Working Group created. I was the official BLM representative of this group. Like the PAWG, this group had no real authority but could make recommendations. However, it resulted in communication which helped greatly in the planning for winter range exceptions. Operators would bring their drilling plans to the table and we could predict which wells would likely be approved for winter operations and which ones should be planned for summer. Criteria included historical deer density data, proximity to major roads, towns, compressor stations (likelihood for habituation) and current range conditions.

Several habitat/range improvement projects were implemented under the BPLBCAP in cooperation with WFGD, livestock and oil and gas operators. Habitat was burned, chained, mowed, railed, and sprayed. Some vegetative and wildlife use transects and photo points were established but I never repeated them before I left in 1997. I don't know if any followup was ever documented to evaluate the success of these projects.

The public was not denied access to winter ranges until one year (1994 I think) when severe conditions hit in mid-December and lasted into January. Only the Mesa was closed as oil and gas maintenance operations made closing the Piney Front impossible. There was some objection from the public but they all understood the severity of the situation. There was never any intention to exclude the public every winter, just during the severe ones. Now the public is excluded but oil and gas operations allowed. I find that somewhat ironic.

The little research I've done into early history (1850-1900) of Sublette County indicates that mule deer were not very abundant. I suspect that livestock grazing and lack of wildfire promoted sagebrush production which in turn created better habitat conditions for deer. This is only a theory which would be near impossible to prove.

III. Future

I believe we will see a continued decline in deer populations due to habitat degradation. Increases in housing developments, industrial development, and poor browse conditions will likely cause short and long term declines in the Sublette Deer. Winter drilling will have a short term effect but the more you do to maintain, improve and restore (reclaim) native habitat the better the future looks for deer populations.

I also believe a responsible operator cares about the impact of their intrusions on natural ecosystems. I know oil and gas operations are affecting the Sublette Deer but the hard part is convincing the operators. There is a certain amount of denial on industry's part (it's the weather, roadkill, subdivisions etc). I can agree that multiple factors have caused the recent decline in deer, but have no doubt that the current winter activity is a major player in the equation.

There is a beautiful southwest slope behind my house on BLM public land. It was classified as crucial winter range in the 1986 Pinedale RMP. It was dropped in the recent RMP and for good reason. I witnessed 5-10 deer on that slope last week. Twenty-five years ago I could witness 150-200 deer on that slope during this time of year. This week the entire slope was covered with snowmobile tracks.

Succession has driven our winter ranges into a state of older and decadent shrubs. Most of our sagebrush is over 60 years old. Most deer come into the winter in good condition but start losing weight as the cold and snow sets in. This situation is compounded by a lack of feed during heavy snow in wet years and poor leader growth during drought. Human disturbances induce stress for deer that don't leave and displacement into sub marginal habitat for those that do. This was the reason for the winter range closures of the past. The worm has turned again.

There is only so much anyone can do. The politics are in industry's corner now and their public affairs staff have done an excellent job. Every week in every paper you will see a check being handed to some deserving cause by an oil and gas representative. If you try to stand in front of this runaway train you will be squashed by the county commissioners, Governor, and your own State Director.

If habitat treatments is your only option to mitigate the deer threshold violation, give it your best shot. Please document what you have done, are doing and will do. I have seen 7 different Area Managers come and go (now Field Manager) in the 25 years I've lived here. I wish I had documented more during my time at BLM, not that much would have survived after 15 years of absence. It took months for your staff to find a copy of my Upper Green River HMP. I think they gave me the original.

I hope you find some use for these comments and appreciate the opportunity to provide them. If you do find the politics become available to slow the pace of development, let me know. I have several ideas to contribute should that option become available.

Bob McCarty, 360-6811

March 11, 2011

Mr. Shane DeForest
Field Manager
BLM Pinedale Field Office
PO Box 768
Pinedale, WY 82941

Dear Shane,

On behalf of Ultra Resources, SWEPI, LP (Shell) and QEP Energy Company (Operators), we reiterate our support of the proposed project by the Pinedale Anticline Project Office (PAPO) to fertilize acreage on the existing suspended flanks of the Pinedale Anticline Project Area (PAPA) Please see attached letter to BLM and Wyoming Game & Fish dated January 4, 2011. We strongly believe this project will enhance habitat productivity for wintering big game, sage grouse and other sensitive species in the sagebrush / grasslands ecosystem of the Pinedale Anticline. Specifically we encourage the PAPO to move forward expeditiously, further leveraging the leases that were suspended as part of mitigation measures in the 2008 PAPA SEIS Record of Decision, by fertilizing the area as soon as Spring 2011.

Research indicates that fertilization to enhance habitat will support healthy wildlife populations. In fact, fertilization actually increases the nutrient value of forage.[1] Other benefits include: "increased cover for game animals, increased quality of browse, increased reproductive levels in deer associated with higher quality range, and increased palatability of certain browse species" [2] Further, deer are "innately motivated to explore their environments for alternate food resources"[3] which implies that when their habitat is disturbed they are willing to seek food elsewhere and when food is made available in a previously disturbed area, the deer will find it.

Most importantly, research confirms that "mule deer are extremely adaptive animals that often respond favorably to habitat management and other land use practices that improve the habitat structure of a given area."[4] Ultimately, as a response to the wildlife matrix trigger, a well-designed fertilization project will be an effective mitigation tool to manage and improve mule deer habitat on the Pinedale Anticline.

---

[1] Bayoumi, M.A. and A.D. Smith. 1976. Response of big game winter range vegetation to fertilization
[2] Growth Response and Deer Utilization of Fertilized Browse, Bruce L. Anderson, Rex D. Pieper and Volney W. Howard, Jr., *The Journal of Wildlife Management*
[3] Feeding Behavior and Habitat Selection of Mule Deer and Elk on Northern Utah Summer Range, William B. Collins and Philip J. Urness, *The Journal of Wildlife Management*
[4] Mule Deer (Odocoileus hemionus), May 2005 Fish and Wildlife Habitat Management Leaflet Number 28, NRCS.

Sincerely,

W. R. (Bill) Picquet
Vice President – Operations
Ultra Resources, Inc.
304 Inverness Way
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John Bickley
Development Manager
Shell Exploration & Production Co.
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Suite 500
Denver, CO 80237

J. P. Matheny
Vice President, Rockies Region
QEP Energy Company
1050 17th Street
Suite 500
Denver, Colorado 80265

Dear Sir,

I am writing you with deep concerns about the drop in mule deer populations in the Pinedale Management Area. As a third generation Wyoming native, I hold these concerns close to heart. I think there was a rush to judgment on allowing the oil and gas industry to year-round access to crucial winter ranges for one of the largest mule deer populations in North America. The evidence is showing that the declines are massive and are trending to a steady decrease in population. The return of the ozone problem highlights the continuing effects of winter time access to energy production in such a unique environment. Noted the paced of production is much slower due to the economic conditions, imagine conditions during the boom times of 2007. Even with ozone mitigation measures during a slower development pace, the air quality is shameful. The loss of habitat during the winter months is displacing the remaining mule deer to areas around urban sprawl and human activity. This stress is taking a toll on the remaining herds, constantly wandering to find isolated areas to conserve their winter energy. These stresses and changes are instinctively passed to offspring and could alter the herds health and well being long after the destruction of the winter range has ended.

The possible development of the Nobel Basin will dramatically change migration routes for the wandering herds. This project and its effects on mule deer populations combined with the on going winter range disruptions paint a very dark future. We are just beginning to understand the relationship of winter drilling and wildlife populations after several years and the impacts are frightening. This access is undeniably altering an ecosystem and the answer provided is to allow time for the mitigation processes to work. We cannot sit back and wait. The winter time drilling has to stop, for the health of the public and the benefit of all forms of wildlife. This is public land, it is not to favor energy development in the multiple use guidelines. The scale has tipped toward energy development. Stop and call for a review of the Pinedale RMP. This plan was rushed through the public process by an administration who changed rules, made exclusions, exempted public safety and heavily favored energy development. Future generations will question the permanent sacrifices that a short lived energy boom thrust on a beautiful and unique area of Wyoming. The future should show that a mistake was made, but it was stopped, and prevented an environmental disaster. Only this legacy will guide future land use policies by example. History will forever recognize that a ecosystem was brought back from the brink by prudent thinking and a reversal of a decision. Thank you for your time.

Sincerely,

Brian Kelly
409 Lewis Street
Rock Springs, WY 82901
307-382-3311

Theodore Roosevelt Conservation Partnership
GUARANTEEING YOU A PLACE TO HUNT AND FISH

555 11th Street, NW, 6th Floor, Washington, DC 20004
202-654-4600 • fax: 202-654-3402 • www.trcp.org

March 14, 2011

Mr. Shane DeForest
Pinedale BLM Office
1625 West Pine Street
Pinedale, WY 82941

Re: Mule Deer Management.

Dear Mr. DeForest:

On behalf of the Theodore Roosevelt Conservation Partnership (TRCP), thank you for the opportunity to comment and provide suggestions on how to better manage and rebuild the Pinedale mule deer (*Odocoileus hemionus*) population.

This particular mule deer population, once considered a world class herd, has attracted people from around the world to view, photograph, and hunt this iconic mammal. However, the latest research (Sawyer, 2010) indicates a 60% decline in the mule deer population due to the expansion of oil & gas production and exploration which substantially increased in 2000. With hundreds more wells planned in the next year, the sustainability of this already depressed deer herd will be impacted further. Without adequate protection of the crucial mule deer habitat, this population may be in peril.

Currently, the Wyoming Game & Fish Department, in an effort to merely maintain the remaining population, is considering the use of non-native plant species to create mule deer habitat on the perimeter or "flanks" of the crucial mule deer winter range. The artificial altering and "creation" of new habitat for migratory mule deer is untested and unproven, therefore not favored by TRCP.

Migratory mule deer must have their crucial historic habitat; including summer, winter, and transitional ranges, if a population is to be sustainable and co-exist with development. We are not dealing with the eastern version of white-tailed deer (*O. virginianus*) that can be lured to palatable vegetative sources. We are dealing with a migratory species (>10,000 years of migration) and attempting to mechanically expedite their adaptations to man-made winter range. If the "flanks" or areas outside of the crucial winter range proved to be the best habitat, then the deer would already be there. Instead, they are being forced to move outside of the best crucial winter range.

TRCP suggests that in an effort to rebuild the Pinedale mule deer population there must be both temporal and spatial mitigation measures implemented that will reverse the current decline. Some of these measures should include:

- Winter oil & gas activities must be prevented within the crucial mule deer winter range.
- The reduction of human disturbance created by the industrial activities must be reduced throughout the mule deer winter, summer, and transitional ranges.

In an effort to save this important mule deer population, we must require industry to work around the deer; not force the deer to work around industry!

TRCP is in support of efforts that will ensure the sustainability of our wildlife resources and hunting and fishing opportunities while allowing for responsible energy production. I encourage you to also review our letter sent to your office on December 16, 2010 regarding the proposed adaptive management measures for the Pinedale Anticline Project Area (attached). On pages 2 & 3 you will see 8 points of concern from TRCP. We encourage you to take these concerns into consideration while looking for solutions to address the mule deer declines.

Sincerely,

Neil Thagard
Western Energy Coordinator
Theodore Roosevelt Conservation Partnership
2401 Heights Avenue
Cody, WY 82414
(208) 861-8634
nthagard@trcp.org

Attachment: (1) December 16, 2010 letter to Mr. Mark Thonhoff regarding the Proposed Adaptive Management for the PAPA.

Working to Guarantee You a Place to Hunt and Fish!

December 16, 2010

Mr. Mark Thonhoff
Pinedale Field Office – BLM
1625 West Pine Street
PO Box 768
Pinedale, WY 92941

RE: Proposed Adaptive Management Measures for the Pinedale Anticline Project Area.

Dear Mr. Thonhoff:

On behalf of the Theodore Roosevelt Conservation Partnership (TRCP), we appreciate the opportunity to comment on this important issue regarding the proposed adaptive management measures for the Pinedale Anticline Project Area (PAPA).

Prior to industrial development, the Pinedale Anticline was referred to, by many, as the "Serengeti of Wyoming" due to its abundant wildlife populations and diversity. Once a mecca for mule deer, drawing wildlife viewers and hunters from abroad, this population may now be in peril. According to the latest published monitoring report (*Western EcoSystems Technology, Inc. 2010)*; the local mule deer population has declined by approximately 60% since the influx of development began in the year 2000. The study indicates that the loss of suitable habitat has most likely contributed to the severe decline of the PAPA mule deer population.

According to the *2006 U.S. Fish & Wildlife Service - Wildlife Related Activities report*, Wyoming's wildlife, excluding fisheries, generates more than $525 million for Wyoming's annual economy. Hunting license sales for mule deer, elk, and pronghorn make up a major portion of this income. The Sublette mule deer herd, which consists of the portion of the herd that is adversely impacted by this development, has long been a "destination" hunting opportunity for residents and non-residents alike and the declining deer herd will, no doubt, impact hunting opportunities as well as the economic benefits provided by hunting.

TRCP understands and values Wyoming's wildlife resources, as well as its hunting and angling opportunities. We also understand the importance of energy resources to our country, but encourage you, the Pinedale BLM Office, to immediately implement changes to the way

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habitats and energy development are being managed to ensure a positive future for wildlife and hunting and fishing opportunities.

By failing to act on the current mule deer declines, you are putting a highly valued native species at risk; you will also be putting energy development at risk; and you will also be putting the future of energy development at risk. Effective adaptive management is based on a principle that you have actions ready to implement once impacts are recognized and those actions will be based on preventing further declines and maintaining objectives for wildlife. The future of wildlife and energy development is in your hands – TRCP encourages you to make fundamental and necessary changes to the adaptive management plans and mitigation that goes well beyond what you have publically stated.

Below is a list of concerns that TRCP has with the current proposed adaptive management plan:

1) Many recommendations from the Wyoming's Cooperative Fish & Wildlife Research Unit (Co-Op) scientists review have been discounted or not dealt with for the key species, including mule deer. TRCP recommends full implementation of all of the review.

2) To make the best use of the Co-Op review to improve the wildlife matrix and monitoring, these proposals should be reviewed by the same scientists to avoid continuing the mistake(s) of conducting monitoring that is not adequate.

3) The proposed actions remove Wildlife Matrix criteria that have been found inadequate and do not replace them. Therefore, not providing benchmarks for wildlife populations and demographics and therefore cannot adequately address impacts created by energy development and mitigation actions intended to alleviate those impacts. TRCP recommends revising the matrix to address these deficiencies.

4) Overall, the response to the scientific review and monitoring results seems to be to retreat to counting animals as the main way to determine if negative impacts are occurring. This is very concerning given there has been a long-term, well designed research program on sage grouse, mule deer, and other species that could be continued. TRCP recommends re-designing the matrix and monitoring to address more than just the number of animals present, but to address the true impacts created by development and the long-term impacts to the health and sustainability of the impacted wildlife populations, particularly mule deer, sage grouse, and pronghorn.

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5) As suggested by the review, TRCP recommends a more complete understanding of various demographic characteristics for impacted wildlife populations, not less. This is needed to fully demonstrate what is happening to populations of animals affected by development, and most importantly to allow specific actions to be taken to mitigate impacts.

6) The main driver for limiting the scope of monitoring seems to be cost, staff time or "we think we have enough information" rather than positive actions to improve the ability to detect problems and provide a better foundation to mitigate them. TRCP recommends a specific mitigation plan to address all losses of wildlife and habitat to-date, a structured approach to any future mitigation actions (on-and-off-site), and a rigorous review process for annual monitoring, mitigation, and funding allocation by a third party, independent review team.

7) These actions do not constitute the adaptive response needed to prevent further losses of affected wildlife and/or habitats, but rather continue the practice of avoiding dealing with problems in the limited target of monitoring. TRCP recommends complete implementation of the Co-Op review recommendations and further independent evaluation of the adaptive process.

8) The adaptive management process being used should be reviewed by an independent third party and all recommendations for changes should be incorporated. In addition, the adaptive management process must be brought into compliance with the exiting DOI adaptive management manual for use of the concept.

Sincerely,

Neil Thagard
Western Energy Coordinator
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Wyoming Agriculture

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The Wyoming Department of Agriculture is dedicated to the promotion and enhancement of Wyoming's agriculture, natural resources and quality of life.

March 15, 2011

Bureau of Land Management
Shane DeForest, Field Office Manager
P.O. Box 768
Pinedale, WY 82941

Dear Mr. DeForest:

Following are the comments from the Wyoming Department of Agriculture (WDA) on the Bureau of Land Management's (BLM) request for comments on habitat projects addressing population change of the wintering mule deer herd on the Mesa located on the Pinedale Anticline.

Our comments are specific to our mission within state government: dedication to the promotion and enhancement of Wyoming's agriculture, natural resources, and quality of life. As this proposal has major impacts upon our agriculture industry, our natural resources and the welfare of our citizens, we believe it is important you continue to inform us of proposed actions and decisions and provide us the opportunity to express pertinent issues and concerns.

The WDA appreciates the Pinedale Field Office's (PFO) efforts to address the possible decline of the Mesa herd's population in their crucial winter range on the Mesa, as well as keeping the public informed of the agency's efforts. We recognize the PFO strives to manage the Mesa and other PFO lands with a multiple-use approach, which is challenging in an area with diverse natural resources and uses. The WDA genuinely supports maintaining and improving all of Wyoming's natural resources including healthy wildlife populations, such as the Mesa mule deer herd.

The WDA is aware of the project developed by West EcoSystems Technology, Inc. to monitor direct habitat loss, mule deer winter habitat selection, and population counts of the mule deer herd since the year 2000. Although current data are valuable as a start to understand more about the Mesa mule deer, we believe proposed studies and projects must consider the following before additional funding is appropriated; scientifically based understanding of the change in population, including if there is an actual decline or if deer utilized alternative habitat and migration patterns, understanding of forage quality across the herd's seasonal ranges, and if habitat manipulation is appropriate according to the findings of previous research.

The WDA believes agencies and scientists fail to fully understand the reasons for the change in population of the Mesa herd. Sawyer and Nielson (2010)[1] report three potential reasons: 1) mild winters in 2007 – 2009 resulted in the Mesa herd not returning to their crucial winter range; 2) restriction of motorized vehicles in the Ryegrass/Soapholes area may have attracted the Mesa herd to this less disturbed area; and 3) following the 2008 Record of Decision Final Supplemental Environmental Impact Statement for the Pinedale Anticline Oil and Gas Exploration and Development Project (ROD), *"the level of winter drilling activity increased on the Mesa"* (p. 17), which might have *"affected fawn survival or adult reproduction"* (p. 17). The WDA believes the PFO and the Wyoming Game and Fish Department (WGFD) should consider Sawyer and Neilson's (2010) potential reasons for the change in the population of the Mesa herd.

[1] Sawyer, Hall, Nielson, Ryan. Mule Deer Monitoring in the Pinedale Anticline Project Area: 2010 Annual Report 2010: 17.

Additionally, Bissonette, White, and Krausman (2010)[2] provided recommendations to the BLM and the WGFD to improve the mule deer monitoring protocol for the project area. These recommendations include developing more effective methods to estimate mule deer populations as well as how to best determine avoidance distances by mule deer. The WDA understands the BLM and the WGFD (2010) adopted the following recommendations from Bissonette, White, and Krausman (2010): 1) increase the number of quadrats from 50 to 62 in order to detect a 15% population decline between years, or cumulatively among years, as outlined by the ROD; and 2) the agencies dropped the avoidance distance threshold, and instead they will continue to monitor the Mesa mule deer distribution *"from a sample of GPS collard adult females (n=20) and modeled annually using Resource Selection Function (RSF) analyses"* (Bureau of Land Management, Wyoming Game and Fish Department, 2010)[3]. Additionally, the BLM and WGFD (2010) will use fine scale analysis to *"monitor mule deer distribution ... annually to assess deer response to ongoing mitigation efforts ..."*. However, the BLM and WGFD (2010) did not adopt Bissonette, White, and Krausman's recommendation to develop a more intensive methodology to monitor adult female deer survival, including a larger sample of adult females and a more precise estimate of *"over-winter fawn survival and fawn production ..."* The WDA strongly urges agencies include the additional recommendation. We recommend existing WGFD data is assessed and used to inform management decisions regarding the Mesa mule deer herd.

The WDA also believes there is a lack of knowledge regarding the current quality of forage across the herd's seasonal range. The WGFD developed a 2011 project proposal to the Pinedale Anticline Project Office (PAPO) to conduct a habitat assessment across the Mesa herd's seasonal ranges. We strongly support this project and believe it is important to assess the current habitat conditions for each of the ranges, before concluding there is a need for habitat treatments on the Mesa for the herd's declining population. The WGFD may actually determine the summer forage is lacking necessary nutrients for the deer to develop adequate fat reserves for winter.

The WDA supports the BLM and WGFD to implement appropriate habitat treatments in areas of need by gaining an understanding of the seasonal forage quality and by tracking the Mesa mule deer's annual life cycle. Additionally, we strongly support the use of Ecological Site Descriptions (ESDs) developed and regularly utilized on private lands by the Natural Resources and Conservation Service (NRCS). Agency staff can use ESDs to make scientific decisions regarding vegetation treatments and to have realistic expectations of what a site is capable of given soil type, precipitation, and growing season.

The WDA understands the BLM, WGFD, and PAPO have identified several types of habitat manipulation projects to consider on the Mesa. One specific project, the "Mesa Fertilization Project," was presented at the February 23, 2011 public meeting in Pindeale, Wyoming and is listed on the PAPO website as a possible 2011 mitigation project (http://www.wy.blm.gov/jio-papo/papo/index.htm). The WDA is not in support of this project as proposed. As stated on the PAPO's website, this project proposes to fertilize up to 31,000 acres of rangeland over a 10 year period. We do not support this project as it fails to collect and analyze data from the initial rangeland fertilization research trial implemented in October 2010 by the PAPO. It is inappropriate to spend thousands of dollars on another fertilization project without utilizing previous data or peer reviewed research on the possible impacts to the rangeland health or to mule deer.

[2] Bissonette, J.A., White, G.C., Krausman, P.R. Review: Mule deer monitoring, Pinedale Anticline. Mule deer monitoring plan review committee, 2010.
[3] Bureau of Land Management, Wyoming Game and Fish Department, Agency Response to University of Wyoming COOP Unit coordinated third-party review of monitoring protocol for mule deer in the PAPO development area, 2010.

While the WDA is not opposed to projects involving fertilization treatments, we insist on using the financial resources wisely with the scientific community backing the project. Additionally, a number of local agricultural producers have the following thoughts and concerns regarding fertilization projects in general, and the proposed "Mesa Fertilization Project:"

- The ability to address quality control over multiple years;
- The ability to identify and quantify the results from the fertilization treatment;
- The potential to transition a diverse, native plant community to a more homogeneous plant community (e.g., grasses out compete forbs);
- Provide sufficient, multiple-year, quality data from a thorough study including baseline data, and established control plots;

Again, the WDA thanks the PFO for accepting our comments and concerns regarding the Mesa mule deer winter range projects. We urge the BLM to first understand the change in Mesa mule deer population, analyze the existing quality of habitat across the herd's seasonal ranges, and research results pertaining to previous studies on rangeland habitat manipulation, specifically fertilization.

Sincerely,

Leanne Stevenson
Natural Resources and Policy Division Manager

Cc: Governor's Planning Office
WDA Board of Agriculture
Pinedale Anticline Project Office
John Cora, Pinedale Anticline Executive Board Chairman
Scott Smith, Wildlife Management Coordinator, Wyoming Game and Fish Department
John Huston, BLM PFO Assistant Field Manager (Resources)
Albert Sommers, Green River Valley Drift President

THE WILDERNESS SOCIETY

March 22, 2011

Shane DeForest, Field Office Manager
Pinedale Office
Bureau of Land Management
P.O. Box 768
Pinedale, WY 82941-0768

RE: Mesa Mule Deer Herd Decline and Adaptive Management for the Pinedale Anticline

Dear Mr. DeForest:

Please accept these comments on your latest presentation from the February 13, 2011 meeting regarding the BLM's adaptive management under the Pinedale Anticline Record of Decision (ROD) to address the serious decline of the Mesa mule deer herd. I was unable to attend that program due to the road over South Pass being closed, but I have reviewed all your documents about this meeting on the web and also spoken to others who have attended.

I've since learned that the comment deadline was on 3/16 and this letter is late. My other work has tied me up considerably and I was unable to submit comments any sooner. Please accept or reject these comments as you will, but I do understand you have provided an extension until 3/23 to another group. I hope these comments will suffice to register The Wilderness Society's (TWS) concerns.

As way of background, TWS has been involved on the Pinedale Anticline Project Area (PAPA) since the early 2000s, and we have closely followed the development of the Supplemental EIS and its final disposition in the 2008 ROD. In addition to that, we have worked consistently since 2008 to monitor the implementation of the ROD, and worked with other groups and local residents to ensure that the BLM is accountable for its commitments in the new ROD. I personally have attended a majority of the Pinedale Anticline Working Group (PAWG) meetings and Pinedale Anticline Project Office (PAPO) meetings in the last three years. And, as you know, I am now a member of the PAWG.

Impacts to wildlife – especially to big game and to sage grouse - have consistently been one of the greatest concerns about natural gas development on the Anticline. 25% of the project area is classified as important crucial winter range for mule deer and pronghorn. In fact, the entire operational design of the 2008 ROD was an effort to minimize these wildlife impacts, as clearly stated in that document:

> *Relief from seasonal restrictions for mule deer and antelope crucial winter range and greater sage-grouse habitat is based upon this ROD affording equal or greater protection for the big game and greater sage-grouse populations than those afforded by seasonal restrictions give the current level of development in the PAPA.*
>
> *The mitigation strategy contained within this ROD includes limiting the spatial extent of development, reducing the number of pads needed to develop the resources, and reducing human presence through the use of liquids gathering systems and computer assisted operations. Further,*

Wyoming Office – 304 Main Street Suite #1, Lander, WY 82520 (phone) 307-332-3462

this ROD includes a Wildlife Monitoring and Mitigation Matrix (Appendix B) that sets specific triggers for specific management responses.(page 24)

This is further iterated:

> *Extensive measures for the mitigation to wildlife resources have been included in this ROD through constraints on development and delineation and the liguids gathering system to reduce production-related impacts.* (page 30)

Yet the ROD and FSEIS also recognized that these project design mitigations would not necessarily be enough, and thus the ROD included a process for monitoring wildlife and developed population decline thresholds that would trigger additional "mitigation responses." This "Wildlife Monitoring and Mitigation Matrix" has been praised as a model for ensuring wildlife adaptive management accountability on the part of BLM. In Appendix B.2 of the ROD this section is called "Mitigation Responses" and states:

> *It is noted that these mitigation responses all <u>follow</u> operational mitigation measures <u>already in place</u> for development of the field and <u>deal with the remaining unavoidable impacts</u> from field development.* (Emphasis added; page B-4)

Thus, it is clear that these are mitigations promised in addition to the design features of the PAPA.

The ROD also makes a strong commitment to take quick action to address harmful impacts to wildlife, if found through monitoring:

> *The mitigation process utilizes performance-based measures to proactively react to emerging undesired changes, specifically declines in populations, early enough to assure both effective mitigation responses and a fluid pace of development over the life of the project. In that regard, this process is designed to provide certainty to the affected agencies and the public that impacts to wildlife will be addressed before consequences become severe or irreversible by monitoring changes and responding early.* (page B-4)

And also:

> *When monitoring indicates a change requiring mitigation, serious mitigation efforts would be made to avoid the change becoming greater.* (page B-4)

Thus, not only is quick action promised, but the mitigation goal is clearly stated to be that which "avoids the change becoming greater" or before impacts "become severe or irreversible." That is, the mitigation goal at a minimum, is to halt downward population declines.

In light of this review of the commitments made in the ROD, The Wilderness Society offers these comments and suggestions about your most recent proposals for adaptive management actions to address the Mesa mule deer herd declines.

1) **The majority of your "actionable items" and all of your immediate, short and mid-term actions are further study, monitoring, consultation, and coordination.** Nothing new appears to be scheduled to happen on the ground until 2012. This fails to meet the ROD promise "to proactively react," "early enough" and mitigations that are "responding early." It appears that a lot of the work required to even know how to respond to this wildlife population trend has not been done in advance, even though the Mesa mule deer herd declines have been well documented for years and well outlined in the FSEIS. This is a disturbing fact given that the BLM has been receiving annually hundreds of thousands of dollars for staffing of its PAPO monitoring and mitigation office on this project since signing of the ROD in 2008. The list of your items here

indicates an agency that is unprepared and possibly has been complacent in the past about a need for such action.

2) **The inclusion of "define mitigation" and "continue directional drilling" as actionable items in response to mule deer declines - are meaningless.** This first effort smacks of an effort to rewrite history and relieve the agency of its accountability for mitigation. I understand that many in their comments last fall cited the Council on Environmental Quality's hierarchy of mitigation responses, in which avoidance of impacts is listed as the first best effort, then minimizing impacts on-site, then on-site restoration, and finally as a last resort: off-site efforts and compensation. You have dismissed this hierarchy in your comments spreadsheet by indicating that these components are already part of the operational design of the entire project. That latter point is irrelevant. The PAPA ROD made it clear that additional mitigation responses might be necessary above and beyond those incorporated into the project design. The BLM clearly committed itself in the ROD to consider a range of additional mitigation efforts to address wildlife impacts, as outlined in pages B-4 and B-5, and this range cannot now be taken off the table by developing a new definition of "what is mitigation" or counting already as credit project components such as directional drilling. It is obvious that the design elements (such as directional drilling, liquids gathering systems, concentrated development, etc.) are not enough to mitigate impacts to this herd. Listing these on-going operations amounts to saying "we'll do the same we've always done." Other responses must be explored and utilized.

3) **BLM's efforts to redefine mitigation is an attempt to limit its mitigation responsibility.** In the power point presentation, it states that mitigation is not a tool to reverse an impact once it has taken place. Yet 40 CFR 1508.20 clearly defines mitigation as including:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.
(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
(e) Compensating for the impact by replacing or providing substitute resources or environments.

"Rectify" means to correct or set right by calculation or adjustment. "Avoidance" can help to reverse an impact, as well as "eliminating" the impact. We acknowledge that there are not clear mitigation goals stated in the ROD, but it is clear that the implied goal is to stop downward wildlife population declines, and that "serious mitigation efforts would be made to avoid the change becoming greater" and that "mitigation will be continued and monitored for the life of the impact and any reclamation associated with it." (page B-4) We are concerned that this semantic focus on the mitigation definition is an effort to justify a complacent approach and a weak and slow mitigation response that will allow the mule deer to decline indefinitely.

4) **Actionable items regarding the Mesa mule deer herd use of the Noble Basin on Forest Service lands does nothing to remove or even minimize that additional threat to the herd.** Further coordination and study still does not stop or minimize that project's threat to the Mesa deer. These listed actions are not mitigations. We encourage the BLM to support the Forest Service in developing a greatly constrained drilling project that eliminates impacts to this herd's spring, summer and fall ranges, or contribute PAPA mitigation funds to the conservation purchase of those leases so that the habitat can be permanently protected under the Wyoming Range Legacy Act.

5) **Efforts to require "specific, achievable and measurable habitat improvement objectives" for PAPO Mitigation Fund projects comes too late since millions of dollars are already out the door.** An examination of the PAPA mitigation fund accounting shows that approximately $6.3 million has been spent for wildlife habitat improvement without this requirement in advance. The Jonah Infill ROD wildlife mitigation fund for the Upper Green area has spent another $16 million without these requirements. These requirements – at least for the PAPA funds - should have been in place well in advance of expending such important mitigation monies.

6) **The only real on-the-ground mitigation effort, as we understand it, is to allow for use of non-native, non-invasive browse species in reclamation efforts in 2012.** There also may be some additional habitat enhancements efforts off-site along migration pathways and transitional ranges, but it appears these discussions with conservation easement owners will only occur this summer, which means little help for the deer until probably 2012. The effectiveness of the first strategy is uncertain, and the vagueness of the second creates uncertainty too. This is a very weak and potentially ineffective effort.

In summary, we find that the BLM's mitigation response fails to live up to the commitments made in the Pinedale Anticline ROD. The mitigations proposed are too little, too late, too uncertain and fail to consider an important mitigation strategy: operational changes in drilling pace, timing or location. In the nearly 2 ½ years since the 2008 ROD was signed, a range of wildlife habitat mitigations and investments have been made, including the project operational design, off-site conservation easements, and some on-site work. These efforts have failed to achieve the expected results of *"affording equal or greater protection for the big game and greater sage-grouse populations than those afforded by seasonal restrictions."* The Wilderness Society continues to recommend, as we did in our Nov. 8, 2010 letter on this topic, that more expedient action should be initiated to address these mule deer declines. Although we support the experimentation with habitat enhancements, we also recommend that the BLM institute a program to limit operations during the winter in the most important and still utilized mule deer crucial winter range. Such immediate change in operations as an experiment for a few years will provide the agency with important data about this tool of avoidance as an effective mitigation. This would also demonstrate prompt and proactive action as promised to the public in the ROD.

Thank you for consideration of our comments.

Sincerely,

Stephanie Kessler
Wyoming Program Manger

CC:
John Ruhs, High Desert District Manager
Don Simpson, BLM State Director
Mary Flanderka, Wyoming Game and Fish Department
John Emmerich, Wyoming Game and Fish Department
Bob Abbey, BLM Director, DOI
Ned Farquhar, Deputy Assistant Secretary for Land and Minerals Management, DOI
Governor Matt Mead
Horst Greczmiel, Associate Director for NEPA Oversight, Council on Environmental Quality

WYOMING WILDLIFE FEDERATION
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Lander, WY 82520
307-335-8633 • Fax: 307-335-8690
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March 16, 2011

Shane DeForest
Pinedale_WYMail@blm.gov
1625 West Pine Street
P.O. Box 768
Pinedale, WY 82941-0768

RE: Pinedale Anticline Project Area Mule Deer Management

Dear Mr. DeForest:

Wyoming Wildlife Federation (WWF) appreciates the opportunity to comment on mule deer management within the Pinedale Anticline Project Area (PAPA). The mule deer population threshold of decline has been reached and action is clearly required.

The Supplemental Environmental Impact Statement (SEIS) of the Pinedale Anticline Oil and Gas Exploration and Development Project and the signed Record of Decision (ROD) 2008 stipulated that a 15% decline would trigger additional mitigation set forth within the Wildlife Monitoring and Mitigation Matrix (Appendix B). The situation currently stands at a documented 28% mule deer decline on the Mesa when comparing population data numbers from 2005/2006 and 2009/2010. The mitigation prescriptions that have taken place since 2008 have not satisfied the habitat requirements needed for this population to sustain itself. The following comments are written to aid the Bureau of Land Management (BLM) in developing mitigation responses and proactive approaches to halt mule deer decline and restore their population numbers.

1. Timing stipulation exceptions have been granted much too liberally. These exceptions allow surface disturbance on a scale that significantly impacts other Public Land values (BLM, operator wildlife exception request letter, 2008). The exceptions increase habitat avoidance and human disturbance during a critical period of the year when mule deer are already under significant stress and at their most vulnerable. (Parker et al. 1984, Hobbs 1989) We find it frustrating to learn that the 2011 exceptions were granted on or before February 7, 2011. The Mesa mule deer herd declines were known to have exceeded the threshold by this time, yet exceptions were still granted:
   a. For 2009/2010 – 29 exception requests on the Mesa were submitted within big game crucial winter habitat. Of those, 28 requests were granted.
   b. For 2010/2011 – 18 exception requests on the Mesa were submitted within big game crucial winter habitat. Of those, 17 requests were granted.

   This type of management will only lead to further declines in an already injured mule deer population. "Although significant indirect habitat loss may occur with seasonal timing restrictions in place (Sawyer et al. 2006), ... wintering mule deer are sensitive to varying levels of disturbance and

that indirect habitat loss may increase by a factor of >2 when seasonal restrictions are waived." (Sawyer, H., M. J. Kauffman, and R. M. Nielson. 2009) WWF requests no exceptions be allowed within big game crucial winter range until mule deer numbers are within the ROD threshold and even then the exceptions should be limited.

2. WWF agrees that continuing to monitor mule deer on the ground is extremely important to gauge mitigation response effectiveness.

3. We suggest that more emphasis be placed on identifying locations for habitat enhancement and identifying what type of enhancement would most benefit wildlife, especially mule deer. Specifically, we suggest determining plant characteristics (i.e. species diversity, density, age, distribution) that provide optimal nutrition to sustain mule deer. (North American Mule Deer Conservation Plan) The acreage under habitat enhancement since 2008 has not met the ratio of acres disturbed. Plainly put, mule deer are declining because mule deer habitat is being lost or fragmented.

4. Acquisition of conservation easements is a worthy use of BLM funds. Leveraging those funds with other interested stakeholders to accommodate the acquisition is particularly important. Five conservation easements have been purchased since signing the ROD in 2008. All of these easements are outside the Mesa, although a portion of the Sommers Grindstone Ranch Easement borders the PAPA area. WWF definitely supports preserving landscapes for continued working ranches, maintaining open space, and habitat for wildlife. It should be noted that competition for vegetation and habitat within those easements remains. Therefore, the effectiveness of the easement as a tool in recovering mule deer cannot be equally calculated by the ratio of acreage preserved through a conservation easement compared to acreage disturbed within the PAPA.

5. Spatial arrangement of gas wells and infrastructure and/or pace of development need to be planned with mule deer in mind instead of responding to the negative impacts after they have taken place. Adaptive management is no substitute for good planning.

6. Mitigation action plans must be specific, with clear steps identifying how it will aid the rapidly declining mule deer population.

7. Consider an adaptive management approach for extension of deferment or development within the flanks beyond 2013. Until mule deer numbers increase, the flanks need to be left untouched by surface disturbing activities unless they are developed to enhance the vegetation and big game habitat.

8. Wildlife friendly fencing has been installed north of the Mesa. Use of this tool should be continued when and where possible.

9. Bussing of work crews is an important tool that along with the liquid gathering system greatly reduces truck traffic. This should be maintained to continue a reduction in human interaction, vehicle collision, illegal kills and disturbance.

10. Although the SEIS acknowledges, "habitat impacts will be substantial due to full field development" the impact must remain within the threshold stipulations set forth in the ROD. Public land managers must recognize that the Pinedale Anticline not only holds world class natural gas deposits but also a world class wildlife resource. Devastating mule deer population declines can and must be avoided.

11. With respect to undertaking habitat condition inventories of non-fragmented habitat, WGFD and the BLM have committed to addressing this and to taking action. We encourage these agencies to take this action immediately.

12. BLM has committed to coordinate with WGFD and other entities for off-site mitigation opportunities. The United States Forest Service (USFS) was not listed as a potential cooperator yet the Sublette mule deer herd and other big game species migrate to and through the Bridger-Teton National Forest. WWF suggests coordinating with the USFS as well.

13. Ensure that security cover requirements for mule deer are incorporated in all restoration plans developed to improve habitat. (North American Mule Deer Conservation Plan)

14. Develop and implement habitat treatment protocols that reduce the impacts of invasive or noxious weeds. (North American Mule Deer Conservation Plan)

The Sublette mule deer herd has been severely impacted by activities on the Pinedale Anticline. This decline must be arrested immediately. The fact that BLM has continued to grant exceptions to seasonal stipulations even when the impacts of such decisions had been documented casts no small doubt on the credibility of the agency. Likewise, the efforts to improve mule deer habitat in the Upper Green River Valley have been too little and too late. Now, the focus must turn immediately to effective remediation. We look forward to working with BLM and other cooperators on restoring both this mule deer population and the credibility of the agency with hunters, anglers and wildlife enthusiasts.

Sincerely,

Joy Bannon
Field Director
P.O. Box 1312
309 Main Street, Suite A
Lander, WY 82520
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joybannon@wyomingwildlife.org

Literature Cited

1. Hobbs, N. T. 1989. Linking energy balance to survival in mule deer development and test of a simulation model. Wildlife Monographs 101.
2. Mule Deer Working Group. 2004. North American Mule Deer Conservation Plan. Western Association of Fish and Wildlife Agencies.
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4. Sawyer, H., M. J. Kauffman, and R. M. Nielson. 2009. Influence of well pad activity on the winter habitat selection patterns of mule deer. Journal of Wildlife Management 73: 1052-1061
5. Sawyer, H., R. Nielson, F. Lindzey, and L. McDonald. 2006. Winter habitat selection of mule deer before and during development of a natural gas field. Journal of Wildlife Management 70:396-403

Timbersong Healing Arts Therapeutic Massage & Bodywork

February 23, 2011

Bureau of Land Management
Pinedale Field Office
P.O. Box
Pinedale, WY 82941

Re: Public Meeting 2/23/2011, Mesa Deer Herd

Because I have to work, I'm unable to attend this important morning meeting this morning about the future of the Mesa Deer Herd. As a citizen, please attach this letter to your sign-in sheet, to show my interest and concern for the well-being of the Mesa Deer Herd. I also offer the following comments:.

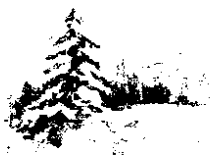
- I'm aware that the latest scientific information shows that the number of deer on the Mesa during the 2010 winter dropped significantly, continuing the well-documented decline that started ten years ago.
- I'm interested in the revised plan of action BLM will be initiating to manage the Mesa Deer Herd differently to help the deer stabilize and maintain a healthy population as gas drilling and production continue to increase.
- Remember, we've had a winter that, once again, has put stress on the deer herd population and it isn't over yet.

The health and well-being of the Mesa Deer Herd is very important to me.

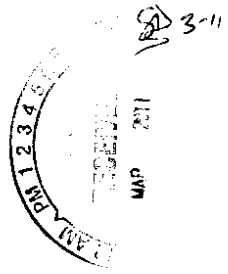
Sincerely,

Kathleen E. Petersen

Kathleen E. Petersen,
Pinedale Citizen
CMT/Owner - Timbersong Healing Arts
kathleen_petersen@vcn.com



P.O. Box 1535 - Pinedale, Wyoming 82941



March 4, 2011

Bureau of Land Management, Pinedale Field Office:

Our historical mule deer population decline on our public lands is simply unacceptable!

A decade ago when intensive drilling began on our public lands, the RMP was delayed and delayed. The public rightfully and continuously expressed heartfelt concerns. We trusted our government authorities to become knowledgeable, using scientific research as a foundation, to draw up a governing plan to include expectations and goals, policies and rules of operation, monitoring and evaluation and sound accountability for the allowances of leasing and drilling and extracting natural gas by private companies on our PUBLIC LANDS.

Over the decade, drawing from EIS, ROD, RMP documents, it now appears that mitigation has become the dominant focus and tool for the BLM to "do it right". "Mitigation is defined as a process to offset some impacts, to include avoid, minimize, rectify, reduce and compensate," (as stated by employee Shane DeForest). Sounds fine, a workable tool in the process of operational endeavors. But obviously not the "end all" assuring success and survival of our mule deer.

We've taken note of the term "significant" now being used in statements by Mr. DeForest when referring to the industry's (significant) impact on wildlife. We remember being fearful, when this whole endeavor began on the Pinedale Anticline a decade ago, that significant impact would be a reality. We also remember being assured that we should have confidence and trust in the industry's words and actions and also in the BLM's management abilities for public lands. We were and remain passionate about drilling on public lands "being done right!" But unfortunately we've also learned how "money talks and nature walks"! We've also watched our local Commissioners and State and Federal Representatives also prioritize $$$ above all else.

Now what is the bottom line? The decisions that have been made, the actions that have been taken, obviously have NOT been in the interest and protection of our historic mule deer herd on the Anticline. Time and time again Nature has dealt a hard hand to the wildlife and it's habitat, but deer and other wildlife have survived. All wildlife need food, water, shelter and space. BLM/Industry driven decisions have destroyed habitat (food), imposed stress, poaching, road kill (in their space and shelter). We truly question drinking water being subjected to contamination from collection ponds and leaks. And THEN, BLM decides to change the policy regarding winter drilling restrictions!? CHANGE IT BACK!!! At least until there is a reversal of the documented research proving decline! Give our public wildlife a break. Remember we're talking about public land, multiple-use land, historic and habitual winter home to our mule deer!

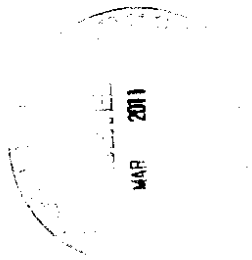
We also urge you to please not overlook the value of "tourism". Tourism is a SUBSTAINABLE source of $$$. It includes watching wonderful Wyoming wildlife, photography, hunting, which depend on the prevalence of our mule deer along with pronghorn, elk, sage grouse, and others.

Thank you for your care and consideration,
Respectfully,

Bev Sharp Sam Sharp

Bev and Sam Sharp
Pinedale, WY

SD 3-11



August 26, 2001

Bureau of Land Management, Pinedale Field Office:

Does anything else get priority over natural gas/oil in Wyoming? Why does a natural gas company need to change previously agreed upon guidelines with the BLM and want to NOW open up to drilling, this winter, critical big game winter habitat and nesting habitat for the dwindling sage grouse population? It's the 2nd year of short forage due to the extreme hot, dry conditions. If anything, we need to take steps to protect the grass and shrubs we have for big game that winter on the habitat area. If anything, the big game need to be left alone to minimize their already stressed condition. The general public is well aware of this situation and concern has been indicated in newspapers as the SUBLETTE EXAMINER and CASPER STAR-TRIBUNE.

We urge you, as the managers and caretakers of this land, to reprioritize, less gas and more respect and value of nature now! A study now is an inappropriate action and will only work to the detriment of the already stressed animals.

Thank you for your consideration and care.
Sam and Bev Sharp
P.O.Box ~~1004~~ 1329
Pinedale, WY 82941

March 5, 2011
Am enclosing this letter submitted to BLM in 2001. Interesting to me to "revisit" it. NOTHING'S CHANGED!? Except a decade later 60% of our deer herd are gone!
You know I look at the newly occupied BLM building and think of how it sits in the center of what was a decade ago, the (Pinedale) pronghorn migration corridor!.. This "picture" is worth a 1000 words!
How sorry I feel,
Bev Sharp